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SYMPOSIUM ON MEDICAL ECONOMICS

MEDICAL EDUCATION, SPECIALIZATION, AND THE PRIVATE PRACTITIONER.*

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MEDICAL EDUCATION

I have a feeling akin to conviction that in a symposium on Medical Economics at this particular time something is going to be said sooner or later about state medicine, so at the very outset I take occasion to express my satisfaction that my task here is a simple one in that the relationship between medical education and the State is long established and universally accepted. Passing over centuries of European history in which formal medical education was almost exclusively a function of state universities, in Virginia that great individualist, the author of the Declaration of Independence, in planning a state university included medicine as one of the original group of subjects to be taught. Medical practice, however, may well be a horse of another color.

This first third of the twentieth century has witnessed unparalleled changes in medical education. There are doubtless men in this audience who received the doctor's degree after one or two years of residence in the medical school, and this could be done without preliminary college training. Today the minimum period in college and medical school is six years, to which period should be added one to five years in hospital training before entering upon practice. Of course, the reason for this has been the truly enormous strides medical science has made during this time and in the period immediately preceding.

The changes in length and character of medical training have brought economic questions and difficulties of first importance. Today the financing of the medical department of a university is one of the major problems of its executive officers. With the possible exception of the graduate school, the medical school is the greatest burden upon the resources of an institution of higher learning.

Available statistics indicate that the average cost of maintaining a medical school is something more than $700 per student a session. This varies widely, as in some schools the cost per student is more than $3,000 a session. The average fee paid in by the student is about $250 a year. The 23,000 students in schools of the United States are being educated at an annual cost of more than $9,000,000 in excess of the fees charged these students. This is being borne by state appropriation and private endowment. It is proper to say, however, that these figures include funds used for research activities, a highly necessary function of a medical school and in the case of some institutions adding materially to the budget. It may be well asked if this enormous increase in the cost of medical education is necessary or justified, or is it part and parcel of an era of profligate spending culminating in 1929. In certain instances it may be true that institutions have burdened themselves with buildings, equipment and personnel out of keeping with reasonable requirements, but on the whole the expenditure is entirely justified and quite necessary.

When the history of our generation is written I believe a noteworthy feature will be the unparalleled record of philanthropic gifts and the establishment of foundations for the betterment of mankind. Medical education has been particularly favored in these and without this source of support could not have made the notable progress we have witnessed. No

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figures are at hand to indicate the total amount of these benefactions, but it is a matter of record that one division of a single foundation contributed more than $75,000,000 to medical education during the past fifteen years. In general, states have shown a relatively liberal attitude toward medical education. This has been variable, however, and certain state schools have been hard put to it to keep pace with the endowed institutions or with state schools which have been more liberally dealt with. In Virginia we have reason to be grateful to individuals and foundations for substantial but on the whole modest assistance. Our appropriations from the State for either capital outlay or maintenance have been far below those of many states. In consequence, the going has been hard for our schools and it has been difficult for them to keep their places in the upward march of medical education and maintain the traditions of thoroughness and scholarly effort we like to think has marked our past.

We are acquainted with the fact that we have in the United States a higher percentage of physicians to population than any country in the world and this percentage is now increasing year by year. There are being turned out from the schools each year about 5,000 medical graduates, which is appreciably more than the number required to replace vacancies by death or retirement. It may be fairly asked what those charged with medical education have done about this in the past and what is being done now. Twenty-five years ago when the population of the country was about 25,000,000 less than at present, the number of students in the medical schools was somewhat larger than today.

Through concerted action of the Council on Medical Education of the American Medical Association, the Association of American Medical Colleges and State Examining Boards, schools without adequate facilities were forced to close their doors and proper entrance requirements were prescribed and enforced. The immediate effect of these measures was to greatly reduce the number of students. In 1923 the number of graduates was 3,000. This number has gradually risen to 5,000 a year, at which it has apparently become stabilized. The colleges of arts and sciences are now turning out far more students with pre-medical training than the medical schools can or will take. Last year there were some 12,000 applicants for admission to the first-year class in medicine in the United States and Canada. Of these 7,500 were accepted and 4,500 refused. Thus we see much has been and is being done to restrain the rising tide, but the flow is still somewhat too large for easy assimilation.

In addressing this Society last year I discussed the possible disadvantages of further raising entrance requirements or of increasing the cost of medical education as measures for limiting the number of medical students. The other alternative would be an agreement by medical schools to arbitrarily further limit the number of students admitted. One of the practical difficulties of such a plan is that reduction in numbers would bring serious financial problems to schools without endowment or without adequate state support, as such schools are largely dependent upon tuition fees of students. Whereas with few exceptions it costs the school more to educate a student than he pays in, if the enrollment is reduced it does not materially influence the cost of operation but reduces the income. More generous support from state or other source would place these schools in an independent position. This problem confronts our Virginia schools in a very practical way and the help of the profession is needed in solving it.

THE SPECIALIST

The problem of specialism is one that has been very thoroughly discussed in many quarters and I feel that I can add very little to what has become common knowledge. Specialism is an important and necessary feature of modern medical service. Statistics indicate that at the present time about 40 per cent of medical graduates limit their practice exclusively to a specialty within five years after graduation. Most fields of clinical specialism are already over-crowded and the present trend will unquestionably make matters worse. The American Medical Association, cooperating with organizations representing the several fields of specialism, is attempting to standarize the training for men going into the restricted fields of practice. It is proposed that at a date not later than January 1, 1938, specialists will not receive recognition by these bodies who have not had after graduation at least one year of general internship followed by three years of intensive training in graduate school and hospital.

THE PRACTITIONER

I have been asked to say something about the problems of the general practitioner. We may well

ask at the outset what these problems are, if any. At our last meeting one of our members, Dr. Daniel, read a thoughtful and suggestive paper on the present state of general practice. He concluded the present day practitioner "has so ignobly fallen from his high estate and is wallowing in the slough of despond of lack of confidence of the public, lack of confidence in himself and of financial dependency. And * * * * * bids fair to become a dodo, defined in the crossword puzzle as an extinct animal." Such statements as this are sufficiently common nowadays to indicate that some such feeling must be more or less prevalent among practitioners. They feel they no longer hold the high position once occupied by the family physician in public confidence and in public esteem. While I think Dr. Daniel overstated his case and while many practitioners have developed something of an inferiority complex and are not seeing things in their true perspective, the statement quoted contains more than a germ of truth.

Now comparing ourselves among ourselves and judging ourselves by ourselves we may not always be wise. For the moment let us examine the situation from a somewhat detached viewpoint. Does a similar situation exist in other branches of medical practice? How goes it with the other so-called learned professions? Have any of us ever seen the time when there was less respect for the law or greater criticism of bar or bench? Does any class bemoan the loss of leadership and prestige more bitterly than the clergy? They can't even control the votes any longer. Do patients go from one specialist to another? Surely they do if the first specialist doesn't get all of their money. Do our patients go to osteopaths, chiropractors and other cultists? Some of mine do. But was there ever a time in recorded history when some of the people were not eager to follow false gods? Certainly they have done so since the Golden Calf was raised up in the wilderness. As I see it, a good deal of the change the general practitioner bemoans and in a way resents is not peculiar to himself or because of himself, but is due to a change in the psychological outlook of the public to many things.

The family physician reached the pinnacle of his high estate at a time when it was still possible for a gifted and well-trained man to compass in the main the field of clinical medicine. I think we must concede that this is no longer possible and that the practitioner of the future will not be cast in exactly the same mold as his predecessor. Will he be replaced entirely by the specialist, or, if he survives, will he become merely a subservient figure in medical practice?

I have seen no plan outlined nor have I been able to visualize a system of medical practice which hasn't as an important if not its most important feature a service which in general represents the function now being performed by what we call for a better name the general practitioner. If the practitioner of the future is to be different from the family physician of the past, in what respect will he differ? Prophecy is hazardous and perhaps no one can answer this question in an entirely satisfactory manner. However, it seems to me the picture is already unfolding itself to an extent that we may in a measure predict the trend. At present and for some years past well-trained medical graduates who have established themselves in practice in the cities have not attempted to cover the whole field of clinical medicine. Some of them do no surgery, others do no obstetrics and in other ways limit the field of their activities. On the other hand they are likely to give special attention to and interest themselves in some one field. This may be pediatrics, gynecology, surgery or the diseases of the heart and lungs. They do not declare themselves specialists in these fields and continue to do what is generally understood as being general practice. The ideally trained man is first of all a capable diagnostician and is furthermore well prepared to treat the vast majority of patients he sees in the home or in his office. He has no elaborately equipped laboratory, but carries in his bag a few instruments of precision with which he is familiar and is well acquainted with both the possibilities and limitations of laboratory examination. When he makes a diagnosis of acute intestinal obstruction and does not himself do surgery he refers such a case to a surgeon with the knowledge that his early diagnosis has been the most difficult part of the job. Because the patient has passed out of his hands he does not consider himself merely a "sign post" nor does he develop an inferiority complex because the surgeon will receive $100 to $200 for the operation, whereas his fee will be perhaps $10 to $20. Without elaborating the picture, it is my observation that in modified form this is taking place in the town and in some instances in the village. The estab-

lishment of privately owned or community hospitals throughout the country permits in increasing degree this type of cooperation and division of labor.

So-called group practice is a variant of this system. The extent to which group practice, in the sense of actual partnerships, will be developed is an open question, but I doubt if it will in the immediate future cover any considerable portion of medical service. On the other hand, a system of free cooperation and interdependence of men not all precisely the same pattern is applicable to both urban and rural districts with the exception of the most isolated localities. I am not forecasting or advocating a system of medical service in which all practitioners are to be half-baked specialists, but directing attention to a trend in medical practice which seemingly enables practitioners to avoid the impossible task of covering the entire field. The highly-trained specialist will always have his place, but I believe a larger percentage of medical service can be adequately done by men doing general practice to the financial advantage of both practitioner and public. In its more highly-developed form this system is dependent both upon the early and later training of the practitioner and particularly upon the willingness of physicians to voluntarily cooperate with each other. I can but believe that medical practice must develop along this or similar lines, or the hand of organized society will be laid upon it and we may be forced into a situation foreign to our present opinions.

Unless we adopt some system of controlled economics or of collectivism, thereby sacrificing to a greater or less extent our individualistic concepts, I see no direct way of equalizing the income of physicians. The local attorney doing general legal work at the county seat does not have the income of the lawyer specializing in corporation law and representing large financial interests in the metropolis and probably never will. From information I have been able to gather during the recent and present depression the general practitioner has suffered less curtailment of income than the specialist. Many of the latter have seen days when they would gladly have exchanged a set of nicely equipped offices, nurse and secretary for just a fairly good general practice. The general practitioner of today has been caught, as it were, in an era of unprecedented scientific expansion and development, one most difficult to follow, and is serving a public critically minded toward all established customs and institutions.

Nothing is further from my mind or heart than to offer unfriendly criticism or to fail to bear testimony to the fidelity and skill with which he has carried on under these trying conditions. I prefer to believe that our adjustments can be and will be best made by evolution rather than by revolution. If the operation is too radical the patient may die, but we also know the same result may ensue if there is no treatment at all.

Many of you may have heard the scholarly and thoughtful Billings lecture on the Practitioner of the Future, delivered at the recent meeting of the American Medical Association by Dr. James B. Herrick. Covered by the cloak of this eminent physician, I dare quote a couplet used by him as my closing thought and it may be after all the most profitable and practical one for us to ponder:

> **The fault, dear Brutus, is not in our stars**
> **But in ourselves, that we are underlings.**

INSURANCE, HOSPITAL AND SICKNESS.*

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The principle of insurance as a means of averaging the financial hazards of life and death is familiar to us all. Through sickness insurance it is proposed to apply this principle in equalizing the cost of medical care. It is urged that, while the aggregate cost of medical care for the American people is not excessive, the distribution of this cost is so unequal that the burden on many individuals is insupportable. It is further argued that, as a result of this "economic barrier" which has arisen between those who are equipped to dispense medical service and those who need this service, a large fraction of

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the population does not receive adequate medical care.

In theory, sickness insurance is appealingly simple. Under this plan medical cost would be spread over large groups and over periods of time. Medical service, stabilized by a fixed income, would be dispensed by well-organized groups equipped to render all the varied types of service that are necessary. However, in attempting to formulate a practical plan of sickness insurance, many difficulties and objections are encountered. Time does not permit a detailed examination of the facts and figures that are available in support of or in opposition to such a plan. We can only hope to consider certain general factors involved in the situation.

It should be emphasized in the beginning that the only standard by which we should measure the merits or demerits of a certain system is the quantity and quality of the medical service it can render the people of our country in proportion to the cost and the effect it may have on the science of medicine. A rational approach to the subject would involve a careful comparison of all of the factors that enter into medical care. We should be concerned, not only with those tangible things that make up the trappings of medicine, but the less easily definable concepts that have to do with the actual relief of human woe.

The practice of medicine is a very personal matter. A physician treats not only a certain disease, but the individual with the disease. All influences that affect unfavorably the personal relationship of patient and physician are as harmful in their result as are defects in technical training and mechanical equipment.

The Committee on the Cost of Medical Care has collected much valuable data on the distribution and cost of medical care. It defines adequate medical care in such terms as the number of office visits, hospitalized cases, hospital days, and the average cost per annum. Little is said of those personal relationships that have so much to do with adequate medical service. A critical analysis of its figure discloses some rather interesting things. Time is insufficient for more than a casual reference to a few examples.

The total annual medical cost to the American people is placed at $3,656,000,000. Of this amount, $485,000,000 is spent for patent medicine and the services of cultists. There is no more reason for including these two items in the cost of medical care than there is in making tobacco and soft drinks a part of an adequate dietary. Furthermore, expenditure for these two items would not be materially changed no matter what system of practice is followed. It is stated that 50 per cent of the total cost of medical care is expended by the group of seriously ill that requires hospital care. This group comprises less than 10 per cent of the whole. The remaining 90 per cent, therefore, after these deductions are made, expends a total of $1,343,000,000, or an average of approximately $11.50 per person per year. This is quite a different figure from their average of $30.00 per annum and more significant of actual conditions. In Publication No. 26, it is shown that 9.8 per cent of our people are sick and receive no medical care. However, when one notes that nearly 30 per cent of the illnesses in this group were classified as minor respiratory diseases, these figures lose much of their significance. This is further emphasized when one examines their definition of sickness. An illness is definite as "any disorder which wholly or in part disables an individual for one or more days," or as "any experience for which medical service of any kind is received" and "any condition, symptom or disorder for which drugs costing fifty cents or more are purchased." These examples are mentioned merely to point out the inadequacy of the background of fact from which proceeds the movement designed to change entirely our system of practice. These figures are still further distorted when presented to the lay public. A prominent advocate of socialized medicine in an article in a recent magazine states that nearly 40 per cent of the people of the United States go through the year without any attention from a physician, dentist, oculist, or hospital. He failed to mention how many of these individuals needed medical care or who applied for it and were refused.

Sickness insurance may take one of two forms, namely, voluntary or compulsory. The advocates of voluntary sickness insurance propose the formation of groups that will agree on an average annual fee and in return are to be provided with a standard medical service. In Europe mutual associations providing medical service have existed since the Middle Ages. In this country forms of voluntary insurance go back to its foundation. In recent years there has been a marked extension of this idea. The Majority Report of the Committee on the Cost of

Medical Care makes this plan one of its major recommendations. It has reported in Publications 17-21 on certain of these groups that have functioned well, but it failed to make any general survey of the field and has omitted from its reports analyses of the many organizations of the type that are open to valid criticism.

It seems probable that under certain conditions homogeneous groups can be set up in various parts of the country that will meet special local needs, but any general application of this principle does not seem possible. Commercial promoters have already entered the field. Destructive competition has arisen between rival groups. Medical service is being bought on a salary basis and retailed as an article of commerce. The effect of such a set-up on the quality of medical service and on the economic status of the physician is in the end bound to be destructive.

The most cogent objection to voluntary insurance as a social contribution lies in the fact that it offers no possibility of solving the medical difficulties of the low income group. In order to reach this group the rates would have to be so low as to make impossible the development of adequate medical service. If rates are at a level consistent with proper service, the members of this group would not or could not make the required payments.

The experience of all countries that have tried voluntary insurance on a large scale is that it is a failure as a general social measure, and all of these countries have gone over to some form of compulsory insurance.

Compulsory sickness insurance is now in effect in most of the European countries except Russia. It was introduced in Germany more than fifty years ago. It is worthy of comment that the various systems have undergone repeated modification since their inception and have not yet become static. The search for an ideal system still persists and probably will persist for many years to come.

It is impossible today to analyze in detail the results obtained under the various systems in vogue. I can only point out certain general trends and effects that are to be noted in all of them.

Much of the difficulty that has arisen has been due to the combination of sick benefit and medical service. This has resulted in an impossible situation due to the conflict between the duties of the medical attendant as a physician and as an agent of the company. The insured's attitude toward the physician is one of suspicion rather than of confidence and trust. In such an atmosphere adequate medical care is impossible. If cash benefit and medical service are entirely separated, there still remain very potent difficulties. The most important one is the attitude of the insured.

In small mutual associations a feeling of responsibility exists among the members toward each other. They realize that the success of the project and, in fact, their own welfare depend upon each member acting honestly in the matter of claiming service. In a large organization with members distributed over a wide area, or in a system operated by state or national government, this sense of responsibility is lost. The members are prone to feel that they are entitled to service in return for the money that they have paid in and to claim benefit for trivial or imaginary ills. That this is no theoretical conception is shown by the enormous rise in the morbidity rate in insurance countries, and the marked increase in the average number of sick days per patient. The insurance physician is placed in an embarrassing position between the demands of economy on the part of the organization he serves and the insistence of the insured for treatment. Probably the worst feature of such a situation is the inevitable result that will follow in the deterioration in the quality of medical service rendered those who are actually sick. The physician's attitude toward the patient undergoes a change. Beset by many individuals with minor and unimportant conditions, he is apt to treat indifferently those who actually need his care. Particularly is this true in seeking out the early manifestations of disease.

There is sound reason for believing that compulsory sickness insurance is socially wrong on account of the destructive effect on the character of those insured. A similar effect has been noted in this country in the veteran hospitals. Anyone who has had experience in these hospitals has been depressed by the vast number of neurotics and malingerers that crowd out those that actually need care. This objection can be partly met by giving only partial coverage and by requiring each individual to make at least a small payment for the service he receives. A further provision eliminating from insurance benefits all minor illnesses and those of short duration would further meet this difficulty.

The actual problem of relief from burdensome

medical cost concerns only a small fraction of those who suffer illness. The 10 per cent that are sick enough to require hospital service incurs about 50 per cent of the entire cost of medical care. It is this group that needs relief and our efforts should be directed to this end. In this connection it is of value to remember that the low income group now receives 77 per cent as much hospital care as is received by the group with incomes of $10,000 and over. Of those having incomes under $10,000, the low income group receives the highest amount of hospital care. Hospital insurance provides a means of equalizing the burden on the 10 per cent that requires hospital service. Under the safeguards laid down by the American Hospital Association, it would seem to provide a practical approach to the problem. Hospital service as contrasted to individual medical care is a definite commodity capable of being standardized. The actual cost of hospital service can be determined and its component parts examined. When the insured buys hospital service through an insurance plan, he knows exactly what he is getting and the hospital knows exactly what it contracts to furnish. Here, again, we will encounter the same problem of misuse of the service. In addition to the other safeguards, it would seem wise to require the insured to pay a small portion of the cost. Even here a sense of individual responsibility must be cultivated.

Finally, I should like to contrast the present method of paying for medical service and the one proposed in the so-called "American" plan of required insurance. "Our "sliding scale" operates in such a way that the wealthy pay a considerable part of the cost of the care of the poor. Fees are scaled down to the disappearing point for the benefit of the low-income group. The indigent are cared for partly out of tax funds and partly by the medical profession without remuneration. The proponents of the insurance plan have borrowed our sliding scale, but it does not slide very far upward. They propose to include in insurance groups every one with income up to $3,000-$5,000. They frankly state that those in the upper brackets will have to pay a higher rate in order to carry those of low income. The whole cost, except for 20 per cent that they hope to secure by taxation, will come from individuals with incomes of less than five thousand. Except for the fraction raised by taxation, the massed wealth of this country will escape payment of any share of the burden. I am somewhat amazed at the temerity of those that advocate this proposed plan of required insurance. They would not only change completely the status of an ancient profession, of whose traditions and ideals they know very little, but they would place upon the shoulders of those of only moderate means the expense of supporting their plan.

CONCLUSIONS

Voluntary sickness insurance on a general scale does not offer an effective solution of the problem of medical care for the low-income group. Under special conditions and in certain localities it may be adapted to local needs.

Compulsory sickness insurance, after many years of trial in various European countries, has not yet developed into a satisfactory system of providing adequate medical care for the low-income group. There is no evidence to show that a more effective system can be developed in this country.

Hospital sickness insurance, under proper safeguards, seems to provide a means of distributing the cost load for the group that incurs the greatest expense for medical care.

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FEDERAL, STATE, COUNTY AND MUNICIPAL RELATIONS TO MEDICINE AND CARE OF THE INDIGENT SICK.*

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This phase of the discussion from the subject assigned should consist of the consideration of the relationship which I believe exists in most instances, and should exist in all instances, between the official public health agencies and the medical profession. With the changing sociological and eco-

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nomic conditions, there is unquestionably greater need for public health to be considered as a specialty in the practice of medicine. The functions of public health agencies are the prevention of disease, the control of spread of disease and the conservation and preservation of the health of the people as a whole—national, state and local. In our form of government, public health organization has been developed to include Federal, state and local, or community, health service. The Federal Public Health Service has been organized and developed in such manner that its functions in no way interfere with the state and local health services. In addition to performing specified governmental functions, it acts as a coordinating body, and makes available information nationally for the protection of the health of the people, and renders assistance to the state and local health agencies. Because of divided responsibility for public health among several departments of the Federal Government, confusion has resulted at times. There should be a coordination of activities, and the responsibility for Federal public health work vested alone in the Public Health Service.

In Virginia every effort has been made to keep public health within the bounds of recognized governmental functions. Public health is preventive, while the practice of medicine is both preventive and curative, yet there is no point in which private medicine and public health cannot go forward without divergence of thought and opinion, and through combined efforts render more and better medical service to all concerned. There are many phases of public health activity which are suitable for cooperative effort between the physicians and the public health agencies. However, there are certain underlying principles that should govern and always be observed. It should always be borne in mind that very few communities are alike, and many factors must be taken into consideration in planning and developing and carrying out any program of work. If the practicing physician is familiar with the procedures to be instituted for the protection of the health of the people, misunderstandings will be eliminated. The practicing physician has not only an essential part in preventive medicine, which is, of course, a means of safeguarding the health of the people, but he is the main factor in accomplishing results. The physicians should not only assist but take the leading part in determining any method for instituting, preventing and controlling disease, and all of those engaged in preventive medical work should endeavor to increase the community's confidence in the medical profession.

To the practicing physician rendering service to the individual, it should be the aim of health departments to make available every facility that effects the spread of disease. By law the responsibility for the prevention of spread of disease is an obligation placed upon health departments. It is required that every available means be instituted to discharge this responsibility. It is recognized that supervision of water supplies and sewage disposal, information pertaining to vital statistics, and collection of reports on communicable diseases, and the institution of methods against the spread of disease, are functions that can only be performed by a governmental agency. Other activities directly for the benefit of the practicing physician are diagnostic service, epidemiological investigations and laboratory examinations. Public health laboratory examinations are not made simply as diagnostic measures but are made in order to aid in the control of disease in the community.

Active immunization is the most important measure in the control of several communicable diseases, particularly diphtheria. The question has often been raised as to the part health departments should play in immunizing against disease. The Virginia State Department of Health stands on the principle that immunization of the individual is a responsibility of the practicing physician, and we can rest assured that if the practicing physician will undertake to do the immunization work, the department of health will be glad to be relieved of this responsibility. However, immunization procedures are so definitely a means of preventing the spread of certain diseases, that any health officer would be derelict in his duty if he did not use these methods as well as every known procedure to accomplish results. Even in view of this, no immunization procedures that involve mass protection through immunization are carried out in any community in Virginia until the local physicans are consulted and are given every opportunity to perform this preventive work. Official public health agencies in Virginia stand ready to cooperate and assist the medical profession in every way possible to protect the citizens against such diseases as smallpox, diphtheria and typhoid fever.

Medical conferences and the so-called clinics conducted by the health department are educational alone, and should be used for this means alone in educating and bringing to the attention of the public the value and need for medical service. Through demand of the citizens and physicians, tuberculosis diagnostic clinics have been recognized as a public health function. In a word, these clinics are conducted in an effort to discover cases of tuberculosis and to prevent and control the spread of this disease as well as to provide especially trained consultants for the medical profession. Suspected cases are only examined at these clinics on request of the family physician, and after examination are referred, whether positive or negative, to the family physician for advice, treatment and care.

Conferences in maternity and infancy work are also purely educational in character. All expectant mothers and infants contacted by public health workers are immediately referred to the medical practitioner for advice and treatment. This is an important factor in reducing excessive maternal and infancy mortality rates.

Economically, health supervision of children is demanded. In Virginia a number of agencies participate in this work. It is not alone carried on by official agencies but there is active participation by the medical profession. Educational measures should result in placing children in the hands of physicians for correction of physical defects and the institution of hygienic measures for improvement in health. The relationship between these agencies should not entail the actual correction of defects nor the instituting of hygienic measures by public health services. Increased knowledge of the public relative to medical facts and information available as to the possibility of preventive as well as curative medicine indicate very clearly that the physician must become the advisor to his patients on preventive and hygienic measures.

Changes in economic conditions of the country during the past several years have presented new and perplexing problems to the medical profession. It can be said without misstatement of facts that additional burdens have been placed upon the medical profession in the care of the indigent sick. The care of the indigent sick may not be a function of the government but it is a responsibility—whether national, state or local. Provision is made in the Statutes of Virginia for the care of the indigent sick by the local communities. Even in normal times medical care for the indigent has not always been provided by the governing bodies. It has usually only been available through the efforts of the practicing physician who, through his self-sacrificing and humanitarian service, cared for those unfortunates to his own detriment and loss.

The physician has carved a niche for himself in the records of civilization which can never be erased. Unquestionably he will continue to perform his duty to humanity as far as he is able to do so, but we cannot question the fact that it is impossible for the medical profession to assume responsibility for the care of the indigent sick without just compensation for their services. Plans for the care of the indigent sick, both in hospitals and in their own homes, have either been worked out or are under consideration, but it is not believed that the question has been fully answered as yet. The medical profession must take the lead in working out with the governmental agencies the responsibility for providing this care in some manner which will be satisfactory to the medical profession, to the citizens, and to the patients.

A satisfactory solution of this problem requires the development of a cooperative plan between the medical profession and the official agencies, preserving the relationship of the physician to the patient, in addition to permitting the patient to select the physician of his choice to render the medical care necessary. There should never be any need for a change in the relationship between the physician and patient. From the standpoint of self-protection, the indigent sick must be aided, and, unless this is done, they will inevitably become a menace and a continuing burden on the entire community in which they live.

In conclusion, let me reiterate that the care of the indigent sick must not continue to be a burden on the practicing physician but a responsibility of the local communities as a whole. The physician recognized the need for the control of epidemic diseases and developed public health work. The medical profession again must take the lead in working out a plan that will not only provide adequate care for these people but one that will also provide fair compensation for the physician.

State Office Building.

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THE ECONOMICS OF MEDICAL CARE.*

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New York, N. Y.
Director of Public Health Activities, Milbank Memorial Fund

The invitation you gave me to take part in this symposium was received with more than ordinary pleasure. Not only do I deeply appreciate the honor of being a guest of a society of such distinguished traditions and achievements but, if you will forgive a personal digression at the outset, I feel as if I have come home again. My own people came to the Virginia colony to seek the opportunity for religious, political and economic freedom; my forebears have lived and died within her boundaries; my own under-graduate education was received in the rigid yet liberal curricula of her colleges and universities; my earliest endeavors as a citizen were in the movement for popular education in 1902-1905, and in discussions of public affairs as a writer and as an editor of a daily paper in Virginia. I feel at home also because I am in a group of physicians. For, though I have no medical degree, I have had the great privilege of working intimately for the last twenty years with members of your profession in medical research, in the field of public health, and on the economic and social aspects of medicine and public health. I say all this, in spite of its personal nature, because I want you, many of whom are my former schoolmates, to know that I am not quite the wild-eyed sort of radical that some have made me appear. Here, at least, I feel at home because I am by heritage, tradition, training, and conviction, an individualist; because I have had the opportunity to understand something, I think, of the ideals and the every-day problems of medical practice; because in this old Dominion unique progress already has been made by all concerned, both medical and non-medical, in discharging common responsibilities for the public health; and because we can speak the same language in discussing a problem of grave public as well as private interest.

With a confessed philosophy of individualism, I come as a student of medical care in its public aspects—not as a protagonist of any scheme or doctrine—to lay before you some tentative proposals for your consideration. The approach which I and my associates are making to the study of economic problems in medical care is concerned with the essentially economic problem of the wider distribution of medical care to the general population through better budgeting of the costs and more stable and adequate compensation for those who render medical care. Our study has not been directly concerned with the quality of medical practice or with the content of medicine, except insofar as these may be affected by a solution of the economic problems. Our approach is also pragmatic in that it starts by taking into consideration the existing economic system, the existing organization of medical practice, and the already established methods of public health and public medical service in the United States. It has tried to draw lessons from European experience studied from the viewpoint of American conditions and needs. It strives to take into full account the traditions, prejudices, and trends in our own country. Its objective is to find something that will offer a workable solution to economic problems but which, at the same time, will satisfy the following postulate which, it seems to me, is thoroughly sound:

Medical care is necessary for the maintenance of the health of the people and should be available to all who need it.

A proper corollary is that any system of medical practice must be judged by the extent to which good medical care is actually obtained. If we apply this criterion of public needs to present-day medical practice, we find that there are about enough doctors, nurses, and others engaged in rendering medical services—about a million persons all told—to take care of all illness and to do nearly all the preventive work for individual patients that we now know how to do. In an ordinary year before the depression became acute, there was being spent annually by the American people about three and two-thirds billion dollars for doctors, dentists, hospitals, nurses, medicines, and all sorts of medical services, good and indifferent. This is enough money to pur-

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chase reasonably adequate medical care at current average prices. Yet in a year's time, even in a prosperous era, millions of families cannot afford to obtain any medical care; hundreds of thousands of cases of sickness needing medical attention are unattended; four persons in every five obtain no dental care; less than 7 per cent of the population have even a partial physical examination, and less than 5 per cent are immunized against some diseases. Although medical science is still far from having solved all the mysteries of ill health, only some of the knowledge already gained is applied to all the people who need medical care.

Medical practice is not profitable to all who are engaged in it because millions of those who need the service cannot pay for it and because of the high cost of maintaining many competitive enterprises. Such facts as are available show that in 1929, one-third of all physicians had net incomes of less than $3,000 and one-half less than $3,800. If we grade physicians in income intervals of $1,000, more general practitioners would be found in the $1,000-$2,000 class than in any other. And this was in the halcyon days! Even in 1929, for every physician who earned a net income of more than $10,000, there were two who earned less than 2,500; for every dentist who earned more than $10,000, there were four who earned less than $2,500! The obvious conclusion is that the doctors were not getting rich in our best times. Their financial rewards are in general only one-half or two-thirds now what they were then. That is putting it far too mildly, however. When we consider the investment in the doctor's training and his responsibility, the conclusion is inescapable that large proportions of medical practitioners have not been and are not being adequately remunerated.

Such a situation, with insufficient health service for the people and inadequate financial support of the practitioners and hospitals, is not satisfactory from the point of view of the public health. Let us be frank. Although we are accustomed to boast of achievements in medicine and public health as having lowered mortality among infants, children and younger adults, the death rate among adults of middle and old age has not appreciably diminished in the past fifty years. By reason of restrictions upon immigration and the decline in the birth rate, we are becoming an older-aged people and can no longer afford to accept impaired vitality as we have done in the past. Even the mortality among mothers and infants in a large class of the population of the United States is still far above that in some other countries. The incidence of illness from preventable and curable causes among persons of every age is still disconcertingly great. The prevalence in all classes of preventable and remediable defects and impairments, physical and mental, is shockingly high. Signs are accumulating that the American people are not going scot-free from damages to health in this depression. Increased mortality rates, especially from tuberculosis and among infants, and more malnutrition among school children are already appearing in some areas and in some groups of the population. Recent inquiries are revealing not only a higher sickness rate among the poor as compared with those more favorably situated, but also a higher rate among those who have suffered the most marked economic change during the past three or four years. These differences in mortality, morbidity, and impairments are definitely correlated with the extent to which preventive and curative medicine is obtained or provided.

The needs of the situation cannot be met, it seems to me, by any one method. There is no panacea, no single remedy. Those who compose our well-to-do class can continue to purchase the medical care to which they are accustomed and the physicians who serve them can continue to do so. Those who are too poor to pay for medical care must be *given* medical care. The only important changes in the present situation of charity practice should be the more adequate provision of good medical care for these people and the more satisfactory payment of physicians and others for rendering medical care to this unfortunate class. For strictly public health and community services and for the most expensive services—the treatment of those afflicted with mental diseases, tuberculosis, cancer, orthopedic defects, the impairments resulting from poliomyelitis and the like—the public must assume an increasing responsibility. This is unavoidable where medical service requires community action or where personnel or equipment are so elaborate and so costly as to be beyond the means or command of individual practitioners. For this class we have public medicine now and we must have more of it. Thus, in brief, I would dispose in principle of the well-to-do and the very poor and of those medical needs which are met and must be met by community action.

XUM

But for the great majority of people who earn their livelihood in the American way of living and who want to pay for medical care, there still remains a fundamental problem which is not solved by any of these means. Medical costs are so variable and so uncertain that they cannot be budgeted by individuals except by those who have substantial incomes or larger means. The facts in the case are clear and incontrovertible on this point. This is the essence of the economic problem in medicine. Between fifty and one hundred million people in the United States cannot, even in the best of times, pay for the medical care they need, and not because the average or total costs are too high, but because the individual costs are uncertain and cannot be budgeted. For the great bulk of the population and for the great bulk of individual medical service in ordinary cases of illness, and for ordinary types of individual preventive care, we must devise and apply some practical means of making possible budgeting and payment of medical costs.

It is significant that all efforts to find such means are based upon the principle of *distributing costs* either among numbers of a group or over a period of time or both. Many physicians employ sliding scales of charges in order that the rich may aid in paying for charity practice. Commercial organization for the sale of medical services is being tried in some sections of the United States; this is highly —and, I may add, properly—distasteful to the medical profession. State medicine, by which is meant the public employment of all physicians and others engaged in rendering medical care, is not only repugnant to the profession but, I believe, would be equally repugnant to the great majority of people. The fact that certain types of medical services have been assumed by the public in this country because they are too expensive for individual provision or because they have for their primary purpose the community control of infectious diseases, does not, I think, give us any warrant for concluding that state medicine or complete public medical service is a feasible solution for the bulk of medical practice and medical service. Various voluntary schemes to distribute costs among groups of people are being tried in the United States. Agencies are being created for the payment of medical bills on the installment plan; group hospitalization or insurance of hospital costs is finding increasing favor in many communities; industrial establishments, either with or without the contribution of employees, are providing medical care to the workers and in some instances to their families as well; some commercial insurance companies are already considering the provision of medical care as one of the benefits of group sickness insurance. In a few places, county medical societies have organized service bureaus to adjust the medical fees charged to worthy poor. And in the Pacific Northwest there has been an important development of medical service bureaus which apply the principle of insurance to medical care provided under the auspices of the medical society. All of these various schemes have been submitted to rather careful study by the Committee on the Costs of Medical Care and by other organizations and agencies. A dispassionate analysis of the results of such studies leads to the conclusion that the heart of the economic problem, so far as the great bulk of the population is concerned, has not been successfully attacked by any of these measures.

Quite naturally and inevitably, any study of the question leads one to consider carefully what other countries have done. The predominant fact emerges that in practically every European country and in Great Britain and Japan, some form of what is called "sickness" or "health insurance" has been adopted. The term "health insurance," for some strange reason, excites some people to unreasoning fury. The bare mention of it promptly leads to a discussion, not of its merits as a method of distributing the costs of medical care among a population group and of providing for payment to physicians, but as a possible attribute of a doubtful social philosophy. Yet when we view the matter calmly, we find that in an extremely individualistic country such as Great Britain or Denmark, health insurance has worked to the satisfaction not only of the public but of the medical profession. Recently I was discussing the attitude of the medical profession toward health insurance in Great Britain with Dr. Anderson, the Secretary of the British Medical Association, and I asked whether the English physicians would, as we have been led to believe by some writers in this country, be willing to return to the old system which prevailed before 1911. Dr. Anderson replied—and he gave me permission to quote him—that not one in a hundred English physicians would be willing to give it up. In spite of certain defects in administrative procedures or in

respect to some other details, a similar situation prevails in other countries.

The bogey of "state medicine" or "socialized medicine" which arises in the minds of some when health insurance is mentioned, is due, I think, to a misunderstanding of the relation of medical practitioners to health insurance. Health insurance is not a system of medical practice. It is a system of paying the costs of sickness through budgeting and prepayment. It is always and everywhere consistent with the private practice of medicine. Indeed, so far as medical practitioners are concerned, health insurance as actually practiced in European countries and in the United States is almost the antithesis to "state medicine" because it is a system of accumulating a financial pool from which to remunerate private practitioners. In modern systems like that of Great Britain, professional matters are under professional control, all licensed practitioners have the privilege of being insurance practitioners or not, as they choose, and the method of remuneration (salary, fee, or per-capita payment) is a choice left to the professions. The 18,000 physicians engaged in British insurance practice are not employed by a government agency; they are private practitioners who have chosen to engage in insurance practice while also carrying on their other private practice among non-insured persons. They and the British Medical Association have repeatedly endorsed health insurance and have recorded their considered opinion that the scope of the system should be enlarged in respect to both the insured population and the medical benefits. Neither in Great Britain nor in any other insurance country has any responsible group, public or professional, ever seriously proposed the abandonment of health insurance. In the course of our studies it has seemed entirely proper to consider carefully the experience of foreign countries with health insurance. We have been trying to discover whether insurance as a method of distributing costs, almost universally used against unpredictable risks other than illness, could be applied to illness under American conditions. Time does not permit a detailed review of this experience but as a result of these studies, I would like to put before you certain tentative conclusions:

The experience of Great Britain and of other countries showed that if a health insurance system:

(a) Excludes profit agencies or other intermediaries between the doctor and his patient;

(b) Leaves to the professions the control of professional personnel and problems and responsibility for the quality of medical service;

(c) Permits all competent practitioners who subscribe to necessary rules of procedure to engage in insurance practice;

(d) Permits each insured person to choose his own physician or dentist from among all practitioners who engage in insurance practice;

(e) Permits insurance practitioners to accept or reject patients; and

(f) Leaves to the practitioners freedom to choose the procedure of remuneration

—if a health insurance system accepts these principles—it can work as clearly in the interests of the profession as of the public.

In planning any program for any state or for the nation, it is taken for granted that the constructive principles formulated by the International Professional Association of Physicians, the American Medical Association, the American College of Surgeons, by the California, the Michigan, and other State Medical Societies, and by other professional associations, should be given the most serious attention, for the maintenance of the physician's professional freedom is of cardinal importance. Adequate remuneration of all those who render medical service is necessary and the professional administration of professional personnel and activities, the maintenance of the private relationship between physician and patient, and the patient's free choice of physician are obviously essential. The certification of disability in order to obtain cash benefits to compensate for loss of wages resulting from illness should not be a responsibility of the practicing physician. We come to this conclusion because the combination of cash with service benefits throws upon the medical practitioner a dual function (provision of medical service and certification of disability) which interferes with the effective and economical practice of medicine and leads to devastating friction between the public and the professions, or between the professions and the insurance authorities. No proprietary or profit-making agencies should be included and no independent intermediary should be permitted between the potential patient and the physician.

Our studies lead to the suggestion, however, that

if and when health insurance is undertaken in the United States, it should go beyond the health insurance systems of Great Britain and Europe. Such systems provide a limited amount of medical care to low-scale wage-earners only, and are grossly inadequate from the viewpoints of medical practice and of public health. Granting that the indigent and dependent fraction of the population must be furnished medical care by the public, some of these systems (as in Great Britain) make no provision for the dependents of insured persons or for the great bulk of the population which is otherwise self-supporting but which cannot purchase adequate medical care on a pay-as-you-go basis, or for those in the "white collar" class. Medical benefits furnished under such poor-man's systems, limited as they are by the inadequate financial resources of the poor, obviously cannot be adequate in quality or sufficient in volume or variety, and cannot furnish a decent income to the practitioner or the institution. It is proposed, therefore, as it is now being proposed by the medical profession in England, that the family rather than the individual or the employed person should be the unit, and that the income limit of the insured population should be sufficiently high so that the system should embrace those who most need its benefits and so that there will be sufficient funds to pay medical practitioners fair remuneration for their services.

Medical benefits should be far more comprehensive than those provided under some European systems. It is proper to consider the possibility that they should include:

1. The services of the general practitioner and the provision of drugs and medicines which he prescribes;
2. The specialist, on the recommendation of the general practitioner;
3. General and special hospital care, with appropriate limitations of kind and facilities and durations;
4. Laboratory or clinic care for the ambulatory sick, on the recommendation of the physician;
5. Emergency and prophylatic dentistry, and such additional dental services as can be furnished for a specified sum;
6. Graduate or practical nursing in the home, with appropriate limitations on duration;
7. Special nursing in the hospital, when prescribed on grounds of medical need;
8. Prescribed medical commodities, home remedies, eye-glasses, surgical appliances, etc.

How comprehensively medical benefits can be provided in one community or another obviously depends upon the financial means of the insured population and upon the availability of adequate facilities.

It has been suggested that the medical services or benefits might be classified into two groups, as follows:

(a) Basic services, including those of the general practitioner of medicine, prescribed drugs and medicine, and, where sufficient beds are available, general and special hospital care; these might be regarded as "mandatory" services under a health insurance system;

(b) All other services could be placed in a "permissive" class and their provision made dependent upon considerations of ability to pay and availability of facilities.

I cannot, in the time at my disposal, attempt to outline even for discussion a plan or program of health insurance, compensation for medical costs, or by whatever name one chooses to designate a practical method of distributing the costs of medical care among those who are able to pay but who cannot budget against the unpredictable incidence of illness. I can only summarize what seem to me, after as dispassionate study as I am able to make, to be some of the underlying principles which must be taken into account. They are as follows:

1. Provision of good health service and medical care to all persons in the population.
2. Distribution of the costs over groups of people and over periods of time.
3. Adequate remuneration of those who furnish medical care.
4. Flexibility in the scope of medical benefits so as to permit adaptation to local variations in available personnel and facilities.
5. Exclusion of proprietary or profit-making agencies.
6. Professional control of professional personnel and procedures.
7. Coordination with other health, medical or welfare activities of the community.
8. Provision for an adequate program of public education on the need and opportunity for medical care.
9. Freedom of all competent practitioners who

subscribe to necessary rules of procedure to engage in insurance practice.

10. Freedom of all persons to choose their physician or dentist from among all practitioners in the community who engage in insurance practice.

11. Freedom of insurance practitioners to accept or reject patients.

12. Maintenance of the private practice of medicine for all, and freedom to purchase medical service privately by those who prefer and can afford this system.

I would like to close with a plea for frank and full cooperation among all who are involved as well as among those who are considering remedial measures. Such action as may be taken should not be forced by the vociferous insistence of a minority group but should come as the carefully considered result of all who have a proper interest in the matter. Although the public's interest is the most important, it will not be best served unless the professions which render medical service to the public cooperate fully in formulating a practical health insurance system, and unless the interests of hospitals, clinics, and other institutions, and the rights and obligations of those who are to contribute, whether they be employees or employers, are fully taken into account.

40 Wall Street.

DISCUSSION OF PAPERS BY DRS. FLIPPIN, MARTIN, RIGGIN AND SYDENSTRICKER

DR. W. L. POWELL, Roanoke: In opening a discussion on four papers, it is necessary to comment rather briefly on the contents of each.

Dr. Flippin's masterful paper needs very little discussion. I am sure we all agree with him as to the qualifications of the general practitioner of the future, one who will be more competent and who will not necessarily refer so many things to specialists. I feel that the general practitioner has done himself great harm in not going more thoroughly into the condition of the patients who have presented themselves to him and in referring them, somewhat hastily, to specialists. Then, of course, patients themselves select their own specialists and usually select the wrong one.

Dr. Flippin has referred to the fact that there are two thousand physicians being produced every year in excess of the number needed. With those, in addition to the thirty thousand now in excess, it is difficult to see what the future will bring forth. I can not think of any practical solution, unless the medical schools will agree to reduce the number admitted, or let two or more medical schools combine into one. The other alternative is to persuade us older men to retire sooner or die off a little bit earlier.

Tuberculosis diagnostic clinics and other clinics, which are held for educational purposes, are certainly to be commended, provided (and I think the practice has been adopted now), the patients are referred back to their private physicians. There was some criticism last year, and probably the year before, about the State Health Department entering into competition with the private physician, but I think most of that has been eliminated at the present time.

Dr. Martin, in his paper, brought out what he considers charges that have been made improperly to the cost of medical care, which, if deducted, will bring the cost from $30 a year, estimated by majority report, to $11.50 a year. I think that is very enlightening. I am sure he investigated the subject very carefully.

As for insurancee, you know there are two plans that have been tried out; one for sickness insurance, and the other for hospital insurance. The sickness insurance plan, as I understand it, has been tried on the Pacific Coast. A great many were initiated by commercial organizations and, as I understand, were very unsatisfactory.

The Fulton County Medical Society, which includes Atlanta, initiated a plan, I think in April, by which the low-income group could secure medical care at their homes. The low-income group were defined as those that make $75 a month, with no dependents, to those who make $150 a month, with up to four dependents. There is an initiation fee and monthly dues. These are in diminishing ratio according to the number in the family. There is no provision in this plan for doing away with the nuisance calls, which will likely give trouble. In a personal communication, about the fifteenth of September, from Dr. Gaines, of the Fulton County Medical Society, he said they had only two hundred members so far. They will have to have two or three thousand to make it successful.

The hospital insurance plan was initiated at Baylor University, Texas. Certain employed groups of men pay a certain amount per month, for which they are entitled to receive a $5-a-day room and all the facilities of the hospital for twenty-one days; special treatments, including electrotherapy, vaccines, transfusions, etc., being charged for at one-half of the regular rate. That is for hospital service only. They have recently added to that what they call a family plan, by which any one who was an original member of the employed group can pay a dollar per month additional, which will entitle the members of his family to the privileges of the hospital at fifty per cent reduction for room charges and other facilities.

Of course we all have the bugaboo of state medicine and national medicine. Every community that wants to institute any plan of insurance—either hospital or sick-

ness—should adopt one suitable to that particular community. When there are several hospitals in a city they should go into it on an equal basis, without competition. There should always be free choice of physicians and hospitals. And any plan adopted should be under the supervision of the local Medical Society.

DR. J. SHELTON HORSLEY, Richmond: I think we are all beginning to realize that times are changing and that, whether we like it or not, the attitude of the medical profession must adjust itself to the changing times. To say that the economic affairs of the medical profession should be conducted in the same manner as it was thirty or forty years ago is obviously unwise, to make an understatement. Change may not be progress, but to be frightened by the bugaboo of state medicine and adhere blindly to old, conservative measures, without making any study of present conditions or any attempt to adjust ourselves to them, must result in disaster.

One of the things doctors are suffering from is the same old law of supply and demand. That can hardly be gainsaid. When you have more doctors than are necessary to take care of sick people, and, in addition to that, the medical schools are actually turning out graduates at the rate of one to two thousand a year more than are needed, what can you expect? Obviously, the number of medical students should be reduced. We should exercise more careful selection, restrict those entering the profession to those with a sincere interest in medicine or with a longing to relieve misery and help sick folks.

There is a change of sentiment. Doctors are now beginning to discuss the economic situation more on its merits and to believe that there must be some solution to be worked out chiefly by the doctors themselves. What we need now more than ever before is real leaders in the medical profession. As Dr. Wilbur has said, it is better to have these economic adjustments done by the doctors than to the doctors.

Here is a recent Bulletin of the St. Louis Medical Society, which was bitterly opposed to the majority report of the Committee on the Costs of Medical Care. I should like to read an extract from it:

"It behooves us to listen closely to the rumblings that come from the thundering herd—the tremendous force of public opinion as reflected in newspaper and magazine editorials." (I will read one of the clippings quoted).

"The New Republic, October 3, 1934. 'President Roosevelt's Cabinet Committee on Economic Security is soon to make its report. When Mr. Roosevelt discussed this subject publicly, on June 29, health insurance was mentioned as one of the legitimate forms of state protection for the individual; but since then nothing has been heard of this subject. We hope this does not mean that the powerful forces which in America are fighting socialized medicine have succeeded, even temporarily, in sidetracking the question. As most persons now know, some nineteen other countries consider maintaining the health of all their citizens a legitimate subject for state concern. The list includes every country in the world with any reasonable claim to call itself civilized, except our own. In the United States the cost of illness has been carefully estimated at $10,000,000,000 a year, a loss of which a great part could easily be avoided. At present, nearly one-half the people with family incomes of less than $2,000 get no medical attention whatever—and this group includes a majority of the whole population. Sponsors for health insurance in America point out that it would not be necessary for us to copy slavishly the experience of Europe. There is no reason, for instance, why a plan should not be set up in the United States under which the personal relationship between physician and patient would be preserved, and any individual be left free to choose the doctor of his own preference. Certainly the President's committee will not have done its whole duty unless it gives the most careful consideration to this subject.'"

If we are to help our patients, which is, of course, the prime object of medicine, and save ourselves, which is a close second, we must in some way envision a plan by which the cost of medical care will be more equitably distributed to those in the lower income brackets, so that medical care can be obtained by those who need it.

Another thing we must have is the annual examination and a sharp lookout for early symptoms. Let us go back to Sir James Mackenzie, who emphasized the beginnings of disease—the trivial symptoms. One hundred and twenty thousand die every year from cancer, and the majority of those persons could be cured if the diagnosis could be made early. Eighty per cent of all cases of cancer can probably be cured early by excision or by application of X-ray or radium, or a combination of these remedies. Many other diseases, such as heart disease, can be avoided to a large extent. This thing of extending more medical service at cheaper rate to more people is a great problem, and it is one that we ourselves should solve.

The fact that there are more cases of sickness reported when there is insurance should be taken in two ways. It may be that those people not getting any medical care before insurance are getting it under this plan. Making the patients pay a small part of the total cost, along with what is paid by the insurance, should prevent imposition on the insurance.

The medical profession should take the lead in establishing measures to provide adequate medical service to every one and proper compensation for those who furnish such service.

DR. R. L. RAIFORD, Franklin: I think the last speaker struck the keynote when he says this problem is largely one of education. It is a well-known fact that almost everybody, it matters not how poor they are, can at least raise some money when they try hard enough. One of our patients who insisted he couldn't pay a cent towards hospital care, bought cigarettes and carelessly burned a big hole in a nice pair of blankets while smok-

ing. Another who had a serious abdominal injury could pay nothing on the hospital expense, but did help raise money to hire a lawyer to defend his brother who cut him.

We could enumerate case after case of this sort if it were necessary. I do not know just where the trouble lies, or the best remedy for it, but I am sure that if, in some way, we could educate the public to realize the seriousness of bearing their own financial burdens for sickness to the fullest extent of their ability, there would be less of a problem in taking care of those who are truly indigent and in need of help.

DR. G. F. SIMPSON, Purcellville: The matter is one of education of the public. We leave that education entirely to our health departments and do nothing except as applied to the individual patients that we treat and come in contact with. I believe the medical fraternity could render a great service, improve their condition, and improve the health condition of the public, and the economic condition, too, if they would take this matter intelligently to the bar of public opinion—because that is the point wherein we are criticised.

I was greatly interested in the State Health Officer's paper this afternoon, because he has outlined to us that we are co-ordinating and co-operating in the public good, and that is the duty every man takes when he enters medical college and takes a degree and becomes a practitioner of medicine. He enters a life of service to the public. Of course, he expects to be remunerated to the extent that he can practice successfully and take care of himself. But that is a very important point, that we do not carry on education of the public by the profession as a whole.

THE OVARIAN HORMONES—A REVIEW.*

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The purpose of this article is to present in a condensed form recent advances made in the study of ovarian physiology. Historical references are omitted for the sake of brevity. It is to be regretted that relatively little space can be devoted to therapeutic uses of the hormones, but this cannot be otherwise, for very little accurate, controlled data have been published concerning the efficacy of the hormones administered to humans.

NAMES OF THE OVARIAN HORMONES: (1) The œstrus producing substance derived from the Graafian follicle—"œstrin," "theelin," "female sex hormone," "folliculin." A closely related substance, theelol, differing from theelin in that it contains one less molecule of water,[1] probably should not be regarded as a separate hormone. (2) The progestational hormone[2] derived from the corpus luteum—"progestin" or "corporin."

NATURE OF THE HORMONES: Following the isolation of the œstrogenic hormone by Allen and Doisy[3] in 1923, researches by Fevold[1] into the chemical composition of the substance have revealed that it is a ketone with the empirical formula $C_{18}H_{22}O_2$. Extraction has been carried out with various fat solvents; in water it is only slightly soluble. It is stable to acids, alkalies and heat. The melting point is given as 250° C.; it is optically active and dextrorotatory.

Allen and Wintersteiner[4] have isolated four constituents from preparations of corpus luteum extract, one of which they believe to be progestin. This substance crystallizes from ether petroleum ether in blunt prisms, is thermostable, and is probably an unsaturated ketone with the empirical formula $C_{21}H_{30}O_2$.

OCCURRENCE OF THE HORMONES: In the normal human female cycle stimulation by the gonadotrophic hormone—or possibly hormones—of the anterior pituitary body provokes development of the Graafian follicle, whose epithelium in turn elaborates the female sex hormone in large amounts. Later in the cycle the corpus luteum produces an additional supply of œstrin, estimated by some workers to exceed the amount secreted by the Graafian follicle.[5] Œstrin is likewise found in the blood and urine of pregnant women and in the placenta, which tissue in itself secretes a large quantity of the hormone. The female sex hormone also occurs widely in plants, as shown by analyses employing the Allen-Doisy technique to be described below, but because of its almost universal distribution some workers are hesitant to regard it as a

*We wish to express our thanks to Dr. R. J. Main, of the Medical College of Virginia, for valuable suggestions and criticisms.

specific hormone. Finally, it has been shown to be present occasionally in varying amounts in the urine of many males.[6] The probable explanation of this interesting observation is that it is simply excreted as a waste product following the ingestion of certain vegetables rich in œstrin.

Progestin, on the other hand, is thought to be produced solely in the corpus luteum.

BIOLOGICAL ASSAYS OF THE HORMONES: Allen and Doisy[3] in 1923 described a relatively simple method for determining the presence of female sex hormone. The unknown substance is injected into castrated mice or rats, and if, within ninety-six hours after the injection, vaginal smears contain non-nucleated epithelial cells typical of œstrus, the assay is positive for the presence of œstrin. These same authors then defined a rat unit (R. U.) as the smallest amount of œstrin which will produce within three days œstrous reactions in vaginal smears of castrated mature rats. Other workers have standardized their preparations in mouse units (M. U.), of which 5 M. U. are equivalent to 1 R. U.

Further elaborating upon these assays, Frank and Goldberger[7] described their technique for estimating the presence and amount of female sex hormone in the circulating blood. In this test as well, the vaginal smears of mice determine the end point. Similar tests may be performed upon the urine and feces.

Since cyclical changes indicative of œstrus appear in the vaginal mucosa of rodents, Lindemann[8] reasoned that analogous variations should appear in the vaginas of women, differing according to the phase of the menstrual cycle. He concludes, however, from his studies that there is no relationship between the type of vaginal epithelial cells and the menstrual stage. Papanicoloau,[9] on the other hand, found the study of vaginal smears a most valuable procedure and strongly advocates further experimentation with it. From his results in thirteen women he states that there are four distinct phases of the menstrual cycle, which can be differentiated by the type of cell found in a loop smear from the vagina. There is, first, a congestive or menstrual phase (1st to 7th day after onset of menses); second, a follicular phase (8th to 12th day); third, a proliferative phase (12th to 17th day); and fourth, a pre-menstrual phase (18th to 1st day). If Papanicoloau's observations are verified by studies of more cases, it is obvious that a tremendous saving in laboratory work in clinical diagnosis will result. In discussing œstrous reactions in the above tests, one must remember that œstrus in the animal is not the same as menstruation in humans, for ovulation and menstruation in women are not simultaneous events.

Assays for the presence of progestin have not been developed as thoroughly as for œstrin or for the gonadotrophic hormone of the anterior pituitary gland.[10] A summary of tests for the presence of progestin is given by Mazer and Goldstein[11] as follows:

(1) Corner and Allen's method: ovarectomy is performed on a recently mated doe, which usually immediately checks endometrial and embryonal development. Injections of the luteal extract are then given for five days, and, on the sixth, the animal is killed and the uterus is examined microscopically. "The minimum quantity of progestin which, when divided into five daily doses and injected into a recently mated, castrated doe weighing 3 to 4 kg., will alter the endometrium to a state similar to that of the eighth day of normal pregnancy, is called a rabbit unit."

(2) Morrell's method based on the abolition, in the presence of progestin, of the usual contractile effect of posterior pituitary extract upon strips of uterus suspended in Ringer's solution.

FUNCTIONS OF ŒSTRIN AND PROGESTIN: The female sex hormone probably begins its functions during intra-uterine life.[6] Frank traces the development of the ovary from the fetus throughout adulthood, commenting on the facts that early Graafian follicles are developed in the fetus, that the uterus and breasts of the female fetus are activated, and that in a small percentage of instances menstruation takes place in the new born baby. It is probable that the last two phenomena result from stimulation by the maternal female sex hormone.

The Graafian follicle subserves two functions: production of the ovum, and secretion of œstrin, which in turn stimulates the development of the reproductive organs and secondary sex characters. Œstrin produces growth and vascularization of the uterus, growth and probably cornification of the vagina, development of the mammary glands, and other attributes of femininity. The developmental

changes of the organism from childhood through puberty to maturity, and the regressive changes following the menopause seem to follow closely, according to Frank, the body's supply of œstrin.

Œstrin, itself, when administered in large quantities, has a detrimental effect on the ovaries, resulting in a diminution in the size of the gland and the number of follicles. The mechanism responsible for such retrogressive changes probably lies in the pituitary gland. Œstrin inhibits the secretion of the gonadotrophic hormone, which in turn results in an absence of stimulationn of the ovary.[6, 7, 12]

The action of œstrin on the thyroid gland has been only incompletely worked out in animals. Ovarian hypofunction is thought to diminish thyroid activity,[11, 13] but both of these hypofunctions most likely are secondary to failure of the anterior pituitary gland.

The action of œstrin on the pancreas and adrenal glands is unknown.

Lesser effects of œstrin on metabolism in humans have been studied by several workers, who find no changes in blood calcium or cholesterol, but an increase in total fat and fatty acids in the blood following administration of the hormone.[14, 15]

That sexual desire in women may be dependent upon the activity of the female sex hormone is suggested,[16] but unproven and very doubtful, for marked libido is often found in castrates.

The functions of progestin appear to be less varied. This progestational hormone prepares the uterine mucosa for implantation of the fertilized ovum, provided that the uterus has been under the previous influence of œstrin. The tremendous volume of work done on mammals on the relationship of the corpus luteum and pregnancy supports the view that progestin performs a function necessary throughout gravidity, to prevent abortion, probably by inhibition of uterine contractions.[2, 17] Œstrin strongly stimulates uterine contractions, while progestin inhibits them.[11, 18]

The mechanics of menstruation have baffled physiologists from time immemorial. Below is given a brief composite summary of some of the more recently advanced theories. For elaborate studies of this anabolic and catabolic process, the reader is referred to Corner,[19] Parkes,[20] Novak,[21] Mazer and Goldstein,[11] Frank,[6] and Englebach.[22]

"The anterior pituitary contains one or more hormones which have the power of stimulating the growth of follicles, the production of œstrin," ovulation and the formation of the corpus luteum (Corner). As the follicle ripens, its supply of œstrin increases, causing a proliferation of the uterine mucosa. Rupture, or ovulation, usually takes place about the middle of the interval betwen menstrual cycles.[23] Some observers sharply limit the time of ovulation from the twelfth to the fourteenth day following the onset of the previous period, whereas others[24] believe that ovulation may occur at any time in the menstrual cycle. Whether ovulation is even a necessary phase of the menstrual cycle has never been proven, for Corner has shown that certain animals may exhibit menstruation without ovulation. He further states that "menstruation without ovulation, while it is rare in the human, occurs from time to time, perhaps chiefly in the very young and near the menopause."

The large quantity of follicular fluid, or œstrin, liberated at ovulation is absorbed by the pelvic lymphatics and carried by the blood stream to the uterus, where its utilization promotes uterine growth and vascularity (Mazer and Goldstein). With the formation of the corpus luteum, the body's content of œstrin rapidly increases, as, of course, does the supply of progestin. The latter hormone has the dual role of inhibiting further follicular growth and of preparing the endometrium, already under the influence of œstrin, for reception and development of the fertilized ovum. If pregnancy does not ensue, the corpus luteum regresses and menstruation sets in.

However, the sequence and mechanism is probably not so simple as just described. It is known that the blood content of œstrin is high just before menstruation, and Frank and Goldberger[25] have shown that there is a sharp reduction in the amount of œstrin just before the onset of menstruation. It may be that in humans, as in many experimental animals, this sudden reduction of œstrin produces menstruation, or pseudo-menstruation. Such a theory presupposes, of course, that ovulation has previously occurred. The progestin formed in the corpus luteum may be the agent which brings about this sudden release of œstrin, for it has been shown experimentally that progestin increases by five to seven times the excretion of the female sex hormone.[11] In summing up his discussion of this difficult problem, Corner declares that "the hypothesis that menstrua-

tion is essentially a breaking down of the premenstrual stage is certainly not true."

ABNORMALITIES OF OVARIAN FUNCTION

The vast scope of this aspect of ovarian physiology prevents more than mention of certain conditions. The clinical concepts of primary and secondary hypogonadism are elaborately discussed by Englebach,[22] Frank,[6] and Mazer and Goldstein.[11] All of these authors and others warn us against too great enthusiasm in the application of theories deduced from animal experimentation upon the treatment of humans. Unfortunately a large majority of reports in current journals dealing with the therapeutic uses of ovarian hormones has been based upon incomplete data, and in many instances such treatments have been nothing more than a "trial and error" regime. If it were economically possible, the hypogonadal patient should have determinations made weekly for four weeks of her blood and urine œstrin and anterior pituitary hormone, and/or her uterine endometrium should be studied microscopically. Such studies have been carried out on a large series of patients by Frank and his associates during the past eight years.[26] They report a regular cycle in the normal fertile menstruating woman, as shown by their assays using 40 c.c. of the patient's venous blood. Normally during pregnancy and during the week immediately preceding menstruation this amount of blood contains 1 M. U. or more of œstrin; at other times, less than 1 M. U. Studies upon the urine content of the sex hormone likewise showed a normal curve, in that increased excretion took place about the tenth day and again about three days before the menses. Similar "titrations" were carried out to determine the amount of anterior pituitary substance in the blood, and it was found that a full R. U. was present in the 40 c.c. specimen between the eighth and tenth day. Kurzrok[27] likewise determined the presence or absence of œstrin and the gonadotrophic hormone of the pituitary in the urine as an index of ovarian dysfunction. Urinary values are probably not as accurate as blood estimations, however, because of the possibility of a lowered renal threshold for œstrin, a condition analogous to renal glycosuria. These findings by Frank and Kurzrok constitute the only scale of normal values so far available to us and show the way for more intelligent diagnosis and therapy.

It cannot be emphasized too strongly that the ovaries are under the direct control of the anterior pituitary gland, and that ovarian failure is usually secondary to pituitary hypofunction. Therefore, logical treatment lies in the administration of this ovary-stimulating substance and not of the female sex hormone. Œstrin therapy should be reserved for those conditions exhibiting an absence or deficiency of the sex hormone, coincidental with a normal or increased supply of anterior pituitary hormone. (The pituitary hypersecretion probably results from a compensatory over-activity of that gland). Included in this grouping of hypogonadisms are most cases of the menopause, some cases of amenorrhea, and perhaps a few cases of relative sterility[26, 27, 28] and dysmenorrhea. Therapeutic results obtained by the use of theelin in the menopause, however, have been variable,[29] but some of the failures may be accounted for by a normal level of blood œstrin before therapy was instituted or by hyperactivity of other glands.

Complete hypogonadism can be diagnosed with certainty only in castrates. Werner and Collier,[30] after treating castrates with theelin, report that "theelin restores the breasts and genital tract to apparently the normal state after previous atrophy, that theelin produces endometrial changes similar to that of normal women at the time of ovulation, that theelin induces bleeding from the uterus qualitatively indistinguishable from menstruation in normal women, that theelin relieves the subjective symptoms that occur in women following castration." Unfortunately, neither confirmation nor denial of these findings have appeared in the literature.

Although œstrin has been used indiscriminately to treat many diseases unassociated with ovarian deficiency, with deservedly poor results, it is noteworthy that its administration in hemophilia and in gonorrhea in young girls may prove justifiable. Birch and others[31] maintain that the female sex hormone diminishes the coagulation time in hemophiliacs but this opinion is not upheld by Brem and Leopold, and Stetson and his associates.[32] The result of treating gonorrheal vaginitis in children with œstrin, as done by Lewis[33] and Brown,[35] and Huberman[33] have been sufficiently favorable to warrant further experimentation.

Other theoretically possible abnormalities of ovarian functions (an excessive supply of œstrin, coincidental with an excessive or deficient supply of

progestin) may be briefly mentioned. An oversupply of œstrin may account for excessive bleeding in pubertal girls and for the formation of uterine fibroids. It is more likely, however, that functional uterine bleeding in both young and mature women[6, 11] and the occurrence of uterine fibromata[34] result from the continued action of normal amounts of œstrin unopposed by progestin (diminished supply of, or complete absence of progestin). An oversupply of progestin, on the other hand, inhibits menstruation and may possibly prolong pregnancy.

A final word may be said in regard to the clinical use of the ovarian hormones. Dosages of œstrin should be prescribed in M. U. or R. U. and not in c.c. or grains. The method of administration is preferably by mouth or by hypodermic. There is no potent preparation of progestin available on the market today. Increase of progestin must be sought through stimulation of the corpus luteum by the prolan-like principle derived from the urine of pregnancy.

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THE ROLE OF ROENTGENOLOGY IN THE PRACTICE OF MEDICINE.*

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In order to understand better the unique position of roentgenology in the practice of medicine, it is necessary to recall briefly the early part of the life history of the X-ray. Roentgen announced his discovery in December, 1895. In less than thirty-nine years the use of the X-ray by the physician in his fight against disease has grown from a mere confirmatory aid to one of the greatest diagnostic and therapeutic agents available. Along with the increase in the use of the X-ray has developed a relatively new specialty, that of roentgenology. Therefore, a roentgenologist may be defined as a medical consultant using the X-ray.

Soon after the disocvery of the X-ray had been reported, many men the world over began experimenting with the new light. Some of the men were trained in medicine, others in science, particularly physics. A few men with no particular training were drafted by chance into working with the new discovery. Since the apparatus was crude and limited, it required great skill and patience merely to obtain the X-rays. Then there was the difficult problem of obtaining satisfactory plates for exposure and, after exposure, the equally difficult problem of developing and finishing the negative. No wonder many men quit in disgust, thinking that the use of the X-ray would never become practical. Often the men best suited to use the X-ray, that is the medically trained men, were the ones to give it up.

The medical men who persisted were, of course, interested primarily in making use of the X-ray in a practical way in the study of disease. They began to study their plates from this angle, and gradually the specialty of roentgenology was developed. Thus, we of the present generation owe these pioneers a great debt of gratitude for their careful, painstaking work, often made at great personal sacrifices.

Those men not trained in medicine often contributed much to the advancement of roentgenology by simplifying and perfecting apparatus. Both groups of men came to be recognized as experts in the use of the X-ray. Even in the early days, however, the opinions of the medical men were of greater value. At first one's reputation consisted chiefly of being able to obtain satisfactory roentgenograms. The physician asking for the examination considered himself competent to interpret the plate; for was it not a picture, and could not any one see the pathology since it was in black and white? But the more conscientious doctor discovered that often he could not find what he supposed was present in the plate. He then asked for help, and, if he was in the vicinity of a sincere man who was interested in X-ray work, he was fortunate. But if he found himself guided by a man who let his imagination dictate his reports, often great harm was done. To this day one often sees, in some of the older men particularly, a great deal of skepticism in regard to the diagnostic ability of the roentgenologist.

In spite of discouragement, certain men, working unselfishly and with the cooperation of the other specialties, have been able to improve apparatus and standardize technique, until finally, instead of spending hours in obtaining an uncertain roentgenogram, it is now possible for an untrained individual to take written directions and obtain a satisfactory roentgenogram of a hand, foot or knee.

Similarly, by studying the results of examinations with the findings at operation or necropsy, the speculative diagnoses have been displaced by logical diagnoses based on proved cases. Having always been required to write not only a diagnosis but also a description of his findings, the roentgenologist has often quite unknowingly helped himself to maintain a logical basis and to profit from his mistakes.

As time passed, it became more and more apparent that to get the greatest possible help from the X-ray, the examination should be made by a man trained in medicine. As is usual in all endeavor, when a new method is brought out, often the first to use it are men trying to exploit the discovery for personal gain. Also in medicine there has always been a certain amount of prejudice against anything mechanical. These two facts resulted in

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considering a man who devoted his time to working with the X-ray a sort of semi-quack, and tended to discourage well trained young men from taking up the work. Some physicians looked askance at the X-ray men as if the latter were trying to usurp something that did not belong to the roentgenologist. At times there developed an antagonism between these physicians and the X-ray men. But as the accuracy of the X-ray examinations became better known, this feeling disappeared. More and more men became interested in the study of the X-rays; men in the other specialties became interested, and, through working together, great advances were made in diagnosis and therapy.

Today one finds that there is practically no field in medicine in which the X-ray cannot be used to some advantage. Instead of X-raying the bones to confirm a diagnosis of fracture, often the diagnosis is made by the roentgenologist. Instead of X-raying an unusual case out of curiosity, a roentgen study of the patient is made in order to diagnose some systemic condition such as a nutritional disease or endocrine dysfunction. Instead of a single roentgenogram of the head to substantiate a diagnosis of fracture, many films are made in different positions. A minute study of the plates is made for evidence of bone disease, brain tumors, systemic disease; or the more complicated methods of encephalography or ventriculography may be used. The sinuses and teeth are radiographed for evidence of a focus of infection. The neck is not only examined for knowledge in regard to the bony structures, but soft tissues, such as the larynx, are minutely studied, not only by roentgenograms but also by the use of the fluoroscope to determine function. The chest is examined for all manner of pathology in the lungs from primary diseases, foreign bodies, tumors, etc., to localized areas of atelectasis in the new born. The heart can be accurately and quickly outlined and often a diagnosis made without recourse to clinical data.

The introduction of contrast media has made it possible to explore practically every hollow viscus in the body. The accuracy of diagnosis of lesions of the gastro-intestinal tract is remarkable. The gall-bladder is not only visualized as to its anatomical condition, but also as to its function. The kidneys can be explored either from a secretory standpoint or from a purely anatomical point of view. The bladder can be readily outlined. The uterus and tubes are satisfactorily visualized. Arteriograms are becoming of not infrequent occurrence. Still newer and better methods of examination are being constantly devised.

All manner of diseased conditions are being treated by the X-ray from simple skin lesions to deeply seated malignancies, the latter by the use of potentials up to 800,000 volts, the X-rays being filtered through 2 mm. or more of copper.

A short review of the present day uses of the X-ray makes it readily apparent that tremendous development has taken place in a short space of time. The roentgenologist has developed from a man, required to have a certain amount of nack at operating a machine and ability in photography and knowledge of medicine, into a medical man highly trained in the use of the X-ray and consulted in regard to all the specialties in medicine. This is perhaps expecting more than it is humanly possible for any one man to do efficiently.

What will the roentgenologist of the future be? No one can foretell. Certain facts, however, are known. The enormous field of usefulness of the X-ray makes it almost impossible for one man to be prepared to give the greatest amount of proficient help in all aspects. There must be some division of work. How best can this be done?

In the smaller communities, in medical groups and hospitals, one man doing all the X-ray work is probably the most efficient. The more difficult cases can be referred to men with greater experience, or the case can be studied more thoroughly and help obtained in some particular phase. In the larger communities the work may be done by men specializing in the different fields, such as chest, urology, etc., who do their own X-ray work. The great disadvantage of this plan is that it is very difficult for a man to study clearly the case from both angles without becoming prejudiced. Either he will be influenced by the clinical findings or he will try to make the clinical findings fit into the roentgenological.

Perhaps the better method would be to have two or more roentgenologists associated together. Each man could make a particular study of certain phases of the work so as to become especially proficient in these aspects. Thus the community would be economically served by men highly efficient in all phases of roentgenology. Undoubtedly, if two independent diagnoses from different medical view-

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points agree, the chances of being correct are very great. If there is disagreement, a consultation between the roentgenologist and clinician will usually result in many points of difference being cleared up and agreement reached. This can be done only by having the X-ray examination made independently by a competent roentgenologist.

In spite of the fact that one hears a great deal about raising the standards of medicine by improving the laboratory facilities of the hospitals, one still finds much mediocre to poor X-ray work being done. Certain national medical organizations have attempted to remedy this. They have minutely prescribed every piece of X-ray apparatus that should be in a hospital of a given size. But they have neglected to require as high a standard in the quality of the men who are to direct these pieces of apparatus. Too much emphasis has been placed upon the mechanical and technical phase of the work and too little upon the professional.

In requiring the hospitals to invest relatively large amounts in equipment, there has been a tendency on the part of the directors to force the department to pay a dividend on the investment. Instead of considering the X-ray department as a part of the hospital, such as the kitchen or operating rooms, it is more and more being considered as a revenue-producing department.

Also, the tendency at present is to force the roentgenologist to practice more and more in the hospital. Once in the hospital on a full time basis, he is at the mercy of the directors. How many members of the medical profession are willing to work for the hospital on a fixed salary basis? I know of very few. Yet, it is advisable for the roentgenologist to do so, why not the internist, the pediatrician, the obstetrician and the surgeon? If one class of medical work can be more efficiently done in the hospital, why not all medical services, the patient then paying only one fee to the hospital and the hospital paying the doctor? The answer is obvious to all of you.

In addition to the above tendencies, there is also the trend for industrial and insurance organizations to equip X-ray laboratories giving X-ray examinations free to their employees. Just why they should go to the expense of equipping an X-ray laboratory is not clear to me. Usually not even a medically trained man is put in charge of the department. This is the custom which laymen follow in attempting to lower the costs of medical care to their employees. How much better it would be if they would take this same money and add it to the compensation of these same employees who would then be more able to pay for such adequate medical care as they may need.

Is it not a strange position in which the roentgenologist of today finds himself in relation to his medical conferees? I am not complaining; I am sure that as the position of the roentgenologist becomes better known to the other members of the medical fraternity, they will see in the situation of the roentgenologist what appears to be the present trend and that proper steps will be taken to restore and maintain the practice of medicine in the hands of the doctors.

We are watching revolutionary changes taking place in other lines of endeavor. They can occur just as suddenly in ours. But whatever does take place, one thing is certain and that is we must be prepared to cooperate with each other to a greater degree than ever before. To many medical men this will be a really difficult problem. We must be alert and prepared to guide whatever changes do occur into the best possible channels for all concerned. This requires consideration of each others problems so that all may cooperate for the common good, not forgetting the welfare of the patient.

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PARASITOLOGY IN RELATION TO PUBLIC HEALTH.

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State medicine in its relation to public health differs primarily from private practice in that the emphasis in State medicine falls on research and on the prevention of disease, whereas the emphasis in private practice falls on diagnosis and treatment. The former involves large-scale operations outside

of the scope of the practicing physician, and the latter involves small-scale operations, with detailed attention to the individual, which attention is of a sort not usually contemplated in public health service.

In parasitology, public health measures must first involve research or take cognizance of the results of research, for the control of parasites follows from the application of suitable methods of control to certain basic features in the life histories of parasites. One of the first essentials is a knowledge of the life histories of parasites; most control measures follow from this. The practicing physician and the public health officer are the front line troops in the warfare on animal parasites. Their books of tactics and strategy are supplied in part from their own forces, but, without the information furnished by the intelligence service that spies on our parasite enemies, identifies them, furnishes information as to their tactics, strategy, lines of communication and similar things, our combat troops would at least waste ammunition and in many cases would sustain defeat through misdirected efforts.

The correlation between scientific research and public health measures in the control of parasites, and the absolute necessity for research as a preliminary to formulating control measures, can best be shown in the form of a chart, such as is given with this paper and which tells the story in such a way that only a little elaboration is necessary to bring out the facts depicted. The control of parasites is so decidedly a form of warfare against certain enemies of humanity that I have seen fit to use some military terms in discussing this subject and to regard the chart as illustrating the tactics of campaigns against human parasites.

An inspection of the chart shows that it illustrates diagrammatically, and with the omission of some details, the life histories of a group of representative parasites, or in some cases the relation between diseases not caused by animal parasites, but conveyed by animal parasites as vectors. Near the upper left-hand side of the chart there is a diagrammatic representation of an infested patient, and at the upper right-hand side is a diagrammatic representation of a susceptible human being who is a potential patient. The lines drawn from the infested individual to the susceptible individual indicate the lines of communication over which our enemies travel in moving from an occupied terrain, a patient, to an unoccupied terrain, a susceptible person. Our knowledge as to these lines of communication has been obtained through the persistent activities of the intelligence service in the laboratory and field, and without the reports of these soldiers in the medical army which combats diseases, this chart could not have been drawn.

In the lower left-hand corner of the chart are covered two special cases of parasitisms in which the parasite enemy moves to the attack not from man to man but from some other mammal to man.

Leaving out of consideration, for the time being, the daggers which are drawn across the various lines of communication used by parasites, the chart presents a diagram of the tactics used by our parasitic enemies in their attack on mankind. It shows that ectoparasites move from the patient to a susceptible human being by contact, or through the exposure of the susceptible individual to infested objects; that blood parasites may move from a patient to a susceptible person by means of ectoparasites, or, in one case, along an alternative route; that worm eggs passed by a patient may infect the susceptible host as embryonated eggs, or may hatch and develop to infective larvae, the eggs or larvae entering through the mouth, or the larvae through the skin; or that certain development in intermediate hosts may be necessary before the parasite can attack a susceptible individual by mouth or through the skin, the parasite in some cases being swallowed in the flesh of an intermediate host when the flesh is eaten as food, or being swallowed in intermediate hosts present as contaminations in various foods.

With this diagram of the enemy tactics spread out before us, it is possible to take up the question as to how we may cut the enemy lines of communication, and to answer this question so far as our tactics have been developed to the point where they are reasonably effective and practical.

It is permissible to turn from the subject of public health measures for a moment to show that the activities of the physician in private practice are likewise based upon research. The physician is indebted to the intelligence service of our medical army for many of the effective weapons which have been placed in his hands for the destruction of internal and external parasites. His anthelmintic weapons have been discovered by the intelligence service in many cases, and in others the precise method of using them to the best advantage has been estab-

TACTICS OF CAMPAIGNS AGAINST HUMAN PARASITES
transmitted by contact
transmitted by exposure to infected objects
Ectoparasites
(lice, ticks etc)
Blood parasites transmitted by ectoparasites
Infective maternal in feces
Worm eggs
Swallowed as eggs
Hatch larvae
become infective
become embryonated and infective
or develop in
or develop to free-living adults
Eggs hatch
larvae become infective
Case of cow (Taenia saginata)
Case of swine (Taenia solium)
Case of various insects (Hymenolepis diminuta)
Case of copepods (Dibothrium)
form larvae in flesh
infected insects as food
infected fish
eaten by other fish
eaten by man
Susceptible host
Infected host
To skin
To mouth
Weapons
Private Medical Practice
1. Antihelmintics
2. Insecticides
Public Health Measures
3. Screening against mosquitoes
4. Mosquito destruction
5. Tick eradication or control
6. Sanitation (sewers, privies etc)
7. Use of shoes
8. Diversion of water containing Cercariae from fish
9. Swine sanitation
10. Cook meat and fish thoroughly
11. Meat inspection and processing
12. Safe water supplies
13. Control of rabbit meat as food
14. Individual hygiene
15. Snail destruction
16. Household cleanliness
17. Prevent use, as food, of fish living in sewage-contaminated water.
18. Control of dog parasites
Mosquitoes
Ticks
Lice
Deer-fly
Contact with rabbits
Flukes (Schistosoma mansoni) larvae
Snails
Roundworms
Hookworms
Pinworms
Whipworms
Filaria
Malaria
Yellow fever
Rocky Mt. spotted fever
Typhus
Tularemia
Dog
Infective Tapeworm (Echinococcus granulosus) eggs in feces
swallowed by man
Rodent or Swine
Swine
Raw or improperly cooked pork and pork products
eaten by man
Man

lished by the intelligence service. Patient investigations of the habits of our worm enemies have shown that some of these migrate as larvae through the body of the host for a week or two before reaching the digestive tract, or actually start from the digestive tract and migrate for a considerable time before returning to the digestive tract. In such cases we know that a patient should be protected from renewed infection for a certain length of time before being treated, in order that all of these larvae may get back to the digestive tract where they can be attacked with our anthelmintic weapons, as, otherwise, the attack may clear out the occupied terrain only to have that terrain reoccupied by larvae returning from areas outside of the front line trenches and where they cannot be reached by our anthelmintic weapons. This is true of hookworms, and the widespread belief that hookworm disease is practically eradicated from the United States must not be taken seriously. Similarly, the intelligence service has supplied the physicians, who make up the combat service in private practice, with insecticides for the destruction of external parasites, and has taught them the precautions which must be taken to cut the enemy lines of communication by the use of weapons other than insecticides.

However, it is with the weapons which are used in the form of public health measures for the destruction of parasites that we are primarily concerned. Each of the daggers which cut the lines of communication over which parasites move from an occupied terrain, the patient, to an unoccupied terrain, the susceptible host, is numbered, and an explanation of these numbers is given in the legend under "Weapons." A survey of our armamentarium against parasites shows thaat these weapons are very diverse and that they have been developed in many cases with special reference to a particular enemy of peculiar habits and with unusual lines of communication in traveling from an occupied area to an unoccupied area. On the other hand, certain weapons cut a line of communication used by many parasites and in these cases one weapon is effective against many kinds of enemies.

An illustration of the first sort of highly specialized lines of communication is that at the bottom and center of the chart covering the case of the broad fish tapeworm, *Diphyllobothrium latum*. This enemy moves out of the occupied terrain, the patient, by way of the feces, and on reaching water the tapeworm eggs hatch and give rise to young larvae which infect copepods. These copepods are eaten by fish and the larvae develop to infective second stage larvae. These fish may in turn be eaten by other fish which become infected with infective larvae, the human host becoming infected if such fish are not adequately cooked before being eaten. In the case of this parasite, three special lines of attack by public health officers are indicated, namely, the diversion of sewage from water containing edible fish, the prevention of the use, as food, of fish living in sewage-contaminated waters, and education of the public in the habit of cooking fish thoroughly.

In this same case, however, it will be noted that farther back on the line dagger No. 6 illustrates a weapon of widespread value in the attack on worm parasites, since it cuts the main line of communication for all parasites leaving the patient by way of the feces. This dagger refers to sanitation in connection with the modern use of sewers, privies and similar things, and is probably the outstandingly valuable weapon which has resulted in modern times in the eradication of many of our parasitic enemies from a large part of the civilized world. Its efficiency may be judged by the fact that in cities the incidence of parasites falls to a low level as compared with rural districts, that in the temperate zones the incidence is very low by comparison with the tropics, and that in the twentieth century the incidence is very low in comparison with the eighteenth century. It is true that a few parasites with special adaptations break through the very efficient guard which is established by sanitation of this sort, and that even in large cities we do find pinworms and amoebae even in persons whose economic, social and intellectual level is very high. Nevertheless, this form of sanitation is a wonderful weapon of great efficiency in keeping our parasite enemies at bay.

To show how efficient that weapon is, let us consider the situation in the field of veterinary medicine. Prophylactic measures against parasites of domesticated animals are blocked along this line by the incapacity of livestock to pattern after the more highly civilized human animal in their disposal of feces. It is true that cats, by virtue of a natural habit, will take advantage of a suitable type of soil privy, if this is provided, and that stallions show a natural tendency always to use a certain

XUM

portion of their fields or paddocks in defecating, but so far as sanitation is concerned for livestock in general, their habits in disposing of excreta have reached a level which is no higher than that attained in the Middle Ages and even later by king and serf alike in their use of the rush-strewn floors of palace, castle or hovel. It is true that as a rule livestock manure is less objectionable than human feces, but that is a mere matter of aesthetics, and does not alter the fact that the most valuable of sanitary procedures in matters of human health—the use of a sewerage system—is not generally applicable to livestock in matters involving control of parasites using the manure as a vehicle for infective material. In lieu of a sewerage system for livestock, such less effective measures as rotation of pastures, or of stock on pastures, of forage crops, and similar things, must be used.

It is hardly necessary to discuss in detail the weapons shown on the chart, or to explain the reasons why they are used, how they operate, or why they are effective. Such things as screening against mosquitoes as control measures for filarids, malaria, and yellow fever are familiar to the physician. However, the chart does show some weapons which have been employed exclusively in veterinary medicine, or to a greater extent in veterinary medicine than in human medicine, and at these points a word of explanation is desirable. Humanity and livestock share many parasites in common, and human and veterinary medicine supplement one another in this as in other fields.

In the lower left part of the chart we have the special case of trichinosis, and it will be noted that there are three weapons which may be employed in combating the deadly *Trichinella spiralis*. The first dagger, No. 9, is swine sanitation. The swine sanitation system was developed by Dr. B. H. Ransom, formerly chief of the Zoological Division of the Bureau of Animal Industry, with the collaboration of some of his associates. It was intended primarily to prevent the infection of swine with the large round-worm, *Ascaris suum*, a parasite morphologically indistinguishable from the human round-worm, *Ascaris lumbricoides*, and which may represent a strain of the human parasite that has become adapted to swine. Under this system, sows about to farrow are washed to remove worm eggs from the skin and feet, and placed in farrowing houses which have been thoroughly cleansed to remove any worm eggs. Within ten days after the birth of the pigs and before any ascarid eggs can reach the infective stage, the sow and its litter are hauled on to a field which has been plowed and sowed to a forage crop, and turned loose on this forage crop. The young pigs are kept here for at least four months or until they have reached market weight. Years of experience have shown that this system is a control measure for many things other than ascarids, as might have been expected, since sanitation is the nearest thing to a panacea in the prevention of disease that we have at present.

I have gradually come to the conviction that this system is the best weapon that we have at present for the control of trichina. There has been much debate as to whether swine become infected with trichinae as a rule by eating rats or by eating the carcasses of dead swine. Regardless of the facts, the swine sanitation system is probably an effective control for trichinosis, for one reason because rats usually remain around corn cribs, outhouses, and other buildings, and do not go out in the open field, so that under this system it is highly unlikely that pigs would devour rats. Furthermore, any farmer intelligent enough to use this system is too intelligent to leave the carcasses of dead swine lying around his field for other pigs to eat. Finally, swine on pasture are not fed on swill or garbage that might contain trichinous meat. In effect, then, the swine sanitation system is a weapon which cuts the lines of communication between swine and rats, or swine carcasses, or pork scraps. Consequently, the swine raised under this system probably come to market free from trichinae and safe as human food. However, the proportion of pigs in the United States which are raised under the swine sanitation system is not nearly so great as it should be, and for the time being we must depend in part on the two other weapons indicated in the diagram.

The more important of these two weapons is the thorough cooking of pork, and the large numbers of cases of human trichinosis in the United States of late gives point to this measure. Health officers should educate the public by newspaper releases or otherwise on the desirability of cooking pork thoroughly, and on the danger of sampling raw sausage in making sausage in the home or on the farm. In this connection it should be kept in mind that microscopic inspection for trichinae is not practiced in the meat inspection service in the United States.

The reasons for this are that, as a rule, Americans prefer their pork well cooked and microscopic inspection is an extremely expensive process. In Europe where much less meat is eaten, and where slaughter house procedures are carried out at a much slower rate, it has been found possible to institute microscopic inspection, but in the United States the adoption of microscopic inspection would probably increase the costs of our meat inspection service by millons of dollars. In lieu of any such inspection, all pork products intended to be eaten raw must be processed under the federal meat inspection regulations, by the use of such amounts of heat, cold, salt and seasoning as have been found to be effective in killing trichinae. Finally, it should be kept in mind that the federal meat inspection is primarily intended for meats and meat products which go into interstate commerce, and that only about 70 per cent of the slaughtering in the United States is under federal inspection. The slaughtering which is not under federal inspection is, in a few instances, carried out under an inspection equal to the federal, but in many more instances it is either very superficial or inadequate, or there is none. I recommend to all public health officers that they make it part of their business to see that within their jurisdiction all meats offered for sale are from slaughtering plants which have a meat inspection service, carried out by veterinarians trained in this work, and equal in its requirements to those of the federal service.

The special case illustrated by *Schistosoma mansoni* needs very little attention in this country at present, for the reason that blood flukes are not known to be established as parasites of man in the continental United States. However, they do constitute a very serious problem in Puerto Rico, a possession of the United States, and should be eradicated from that island. It is comparatively easy to destroy snails, which are the intermediate hosts of flukes, by very weak solutions of copper sulphate, and a campaign against a fluke parasite of sheep in California, carried out by the Bureau of Animal Industry largely along the line of snail destruction, has proven highly effective in practically eradicating these flukes from sheep in the course of three years.

It does not seem to be necessary to go into further detail in discussing the information shown in the chart which illustrates the tactics of our enemies in moving from infested patients to susceptible individuals, and illustrates by the use of daggers the control measures which may be applied. Some of these control measures are not well developed. We have an illustration of this in the case of Rocky Mountain spotted fever which is transmitted by two species of ticks, *Dermacentor andersoni* and *D. variabilis*. The indicated line of control in the field of public health measures is tick destruction or control of ticks by some other means, but it is much easier to say this than to outline an effective and practical method. The ticks are three-host ticks which at various stages of their development may attack birds, rodents, carnivores, ruminants and man. Because of their wide range of hosts, and because these hosts are largely out of our control, and because of the abundance of seed ticks throughout our woods and fields, it is an extremely difficult matter to control them, and no practical control measures have been developed up to the present. The fact that Rocky Mountain spotted fever appears to have jumped from the Rocky Mountains to the Eastern Seaboard is cause for some apprehension, especially in view of the fact that our intelligence service has not yet furnished us with any practical measures by means of which we can cut the lines of communication of this enemy through an attack on its tick vectors. Here is an illustration of the absolute dependence of our combat forces in the field of public health upon their associates in the intelligence service of the research laboratories.

In this connection may I remind you that in addition to our war on our parasite enemies, both the public health officers and the research workers are constantly under fire from one section of the human beings whom we are endeavoring to protect by our activities. A public health officer is at times hampered by persons who feel that their business will be injured if an open campaign reveals the fact that a disease is prevalent in their localities. Regarding these persons who would sacrifice public health for individual profit, no comment is necessary. In addition, both the public health officer and the research worker are constantly, or periodically, under fire from the so-called antivivisectionists who would destroy the intelligence service of our medical army by preventing experiments on animals. These enemies of mankind must be combated whenever possible, or else the weapons and tactics which we must

XUM

have to combat Rocky Mountain spotted fever and various other diseases against which no weapons and combat tactics have as yet been developed by the intelligence service, will not be developed, and these diseases will continue to take their toll in human lives and suffering and in monetary loss.

THE DIAGNOSIS OF CHRONIC APPENDICITIS.*

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In selecting the topic of chronic appendicitis for discussion, I am aware of the fact that considerable doubt has been expressed by a number of able clinicians as to the existence of such a disease. There is also disagreement among pathologists who have studied so-called chronically diseased appendices as to what criteria should be adopted in recording the presence or absence of disease. It is true that an abnormal appendix may be present which shows under the microscope none of the changes signified by the suffix-itis. Lack of these changes does not mean that there may not be a disturbance of function in the organ giving rise to local or distant reflex symptoms. Perhaps the name, chronic appendicitis, is not descriptive of the disease, but long usage has established it in the minds of the profession and the laity, and its use simplifies discussion among ourselves and is a name readily understood by our patients.

If we wish to do so, we may even extend our controversy to the pronunciation of this malady. In this connection, I am reminded of a story told by Dr. Alfred Worcester, who, incidentally, was one of the first individuals to be operated on for appendicitis. In discussing a paper by Steele on appendicitis, he recalled over-hearing a conversation between two boys who had had the disease. One called it appendicitis and the other "appendiceetis," but the former insisted that he had the disease in his side and not in his seat. I am convinced that there occur changes in the appendix as the result of chronic inflammation or of previous acute infection which can give rise to local pain or discomfort, or which, according to the teaching of Alvarez, act as an irritable focus which reflexly disturbs the normal gradient of gastrointestinal activity, producing symptoms largely of motor origin.

*Read before the Richmond Academy of Medicine, May 22, 1934.

It would be tedious to review the literature on the subject because it is so voluminous. Watkins stated in 1932 that about 662 papers concerning chronic appendicitis had been published up to that date. Nor will I burden you with statistics giving the end results of appendectomy. Poor results, as judged by failure to relieve the symptoms for which the operation was performed, range from 10 to 70 per cent in various series reported. A number of writers have analyzed the cause of failure in these cases, and the obvious conclusion to be drawn is that mistakes in diagnosis or improper recommendations were the explanation of the unhappy results. It would seem, then, that a discussion of the diagnosis of chronic appendicitis should be worthwhile.

Roentgenologists are not entirely in agreement among themselves as to the findings that indicate an abnormal appendix. I am sure that they can at times demonstrate certain things which will help us in reaching a proper conclusion. An appendix which is fixed in any position or which is tender to direct pressure in whatever location it may be placed is probably a diseased one. Obvious irregularity in the diameter of its lumen, the presence of definite vacuoles suggesting fecoliths, or, perhaps, marked delay in emptying the barium are additional signs of some value. Should the appendix not be visualized, this in itself cannot be regarded as a positive indication of disease, but if there is persistent tenderness in the normal location of the organ, this may be considered of distinct importance. If the Roentgen examination of the appendix is satisfactory in every respect and no abnormal changes are demonstrated, it is still, at times, unwise to eliminate the organ from consideration as a cause of the sypmtoms. It should be emphasized, however, that in the presence of positive Roentgen findings cor-

roborative evidence of disease must be adduced from the history and physical examination before an operation is advised. A further word may be added at this point in regard to fecoliths. The presence of these inspissated masses of feces in the appendix cannot always be determined clinically or Roentgenologically, but I am sure I have seen a number of patients who have had attacks of appendiceal colic without developing signs of acute inflammation. It would seem logical that this would be true when we consider the fact that a stone in the cystic duct can produce gall-bladder colic, and obstruction to the ureter promptly invokes kidney colic. I was particularly struck with the importance of appendiceal fecoliths a few years ago while watching the incision of an appendiceal abscess by one of my colleagues. After most of the pus had been removed by suction, he began exploring the cavity with forceps and in a few moments came up with a good sized fecolith. He remarked on the frequency with which they occur in this type of abscess and the necessity of removing them in order to facilitate healing.

Chronic or recurrent pain in the lower right abdomen is regarded as a symptom of chronic appendicitis, and no one can deny the fact that an appendix which is plastered to the posterior abdominal wall, or whose tip is stuck up under the liver or to the lateral abdominal wall, can give rise to chronic pain frequently described as dragging or pulling. It must be remembered, however, that a spastic colon, a dilated atonic colon possibly with perityphilitis, diseases of the right kidney and ureter, inflammation of the right sacroiliac joint, parietal neuralgia, pelvic disease and a number of other conditions will have to be excluded as a cause of the pain. These same abnormalities may explain tenderness in the region of McBurney's point. The differentiation between superficial and deep tenderness, according to the method of Carnett, should always be used, as it is of distinct value.

There is sufficient evidence to indicate that chronic disease of the appendix may give rise to pain in the epigastrium, in the upper right quadrant and even in the lower left quadrant. A recent report from the Mayo Clinic analyzes the results after five years in one hundred patients who complained chiefly of abdominal pain and dyspepsia for which no cause could be found clinically, and on exploration nothing was found to be done but removal of the appendix. Seventy-six per cent of these patients were cured and 14 per cent were improved by the operation.

There is no question that an individual with a typical history of recurrent attacks of acute appendicitis should be operated on, preferably in the interim between attacks.

A good deal of discussion has been held over the question of the relation of chronic appendicitis and peptic ulcer. I seriously doubt whether chronic disease of the appendix can actually cause a peptic ulcer, and know of no way to offer proof either way, but on several occasions I have advised removal of an obviously chronically diseased appendix through a McBurney incision prior to the institution of medical treatment for the ulcer. It is entirely possible that removing this irritant focus may lessen spasm about the pylorus which is such a prominent feature of most peptic ulcers.

We now come to the discussion of that large group of individuals who have persistent or recurring indigestion, often of the ulcer type, who show on Roentgen examination no demonstrable lesions in the upper abdomen except, possibly, hyperactivity of the musculature about the pylorus and perhaps a gastric hyperacidity. They may or may not give a history of acute attacks of appendicitis. If there are present any of the Roentgen changes mentioned above, and if the individual is otherwise healthy, if he is not of the thin, visceroptotic type, and if we are unable to elicit a history of over-work, worry or nervous fatigue, we may advise removal of the appendix with excellent prospect of cure of the condition. This cure may not eventuate promptly, however, as the reflex nervous hyperactivity of the gastrointestinal tract may become a habit, and may require dietary regulation, antispasmodics and alkalies for weeks or months before the symptoms completely subside.

My last group of cases constitute the most difficult of all. I often feel that these individuals should wear a label on which is inscribed "Surgeon beware." In this group we find the constitutionally inadequate patients. They complain of cardiac symptoms, such as palpitation and "gas pressing on the heart," they have tightness in the chest as if a satisfying breath is impossible, they have diffuse vasomotor disturbances, and almost invariably gas-

XUM

trointestinal symptoms. These consist of a lump in the throat, flatulence, constipation, indefinite abdominal pain often along the course of the colon with perhaps mucus in the stools, and other symptoms too numerous to mention. They are usually lean and chronically fatigued. They have Roentgenological evidence of visceroptosis and hypotonicity. If these people develop evidence of acute appendicitis they should be operated on. An operation for chronic appendicitis, however, should be undertaken only after lengthy deliberation and then only after a definite understanding with the patient that the operation may not cure his symptoms. It is true that these patients are often temporarily benefited by the operation because it makes a profound psychic impression and because it necessitates a period of rest in bed, but any physician who has made physical examinations of several thousand patients can recall the number of abdominal scars he has noted in individuals who have had no permanent benefit from their operations.

I think it an excellent plan to remove the appendix when the abdomen is opened for another purpose, provided it does not jeopardize the patient's chance for recovery, because this eliminates the possibility of a future attack of acute appendicitis.

If we are going to give the best possible service to our patients, it would be well to employ the old railroad sign, "Stop, Look and Listen," before advising any appendectomy for chronic appendicitis. The operation is considered a relatively simple one, but it carries a definite chance of mortality and unexpected post-operative complications do occur. Furthermore, the financial angle of the situation is one that cannot be lightly dismissed in these times of economic stress.

608 Professional Building.

WHAT IS VIRGINIA DOING TO CURB VENEREAL DISEASES?

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In a survey of the reports of the different state health departments, one is impressed with the absence of any standardized plan for controlling the venereal diseases. While the United States Public Health Service recognizes the importance of standardized measures for preventing their spread, the health departments of the several states show the greatest diversity of opinion as to the proper means of combating this acknowledged menace. For example, Montana makes no mention of the existence of these diseases in that state during the biennium ending June 1, 1932. And in our own fair Virginia, the Assistant Commissioner of Health frankly states that "there is no division of venereal diseases in his State, in the true sense of the term," and "That its activity is limited to the distribution of the arsenicals to the profession at a reduced price and in answering an occasional request for information upon the subject." Yet, in a statistical study of the mortality reports in Virginia, Dr. C. B. Ransone, of Newport News, states that 4,415 people died from syphilis alone in one year—twice as many deaths as from tuberculosis, a little less than three times the number of deaths from pneumonia and cancer combined, during the same length of time, and twenty-five times as many as died from typhoid fever.

The mortality from syphilis, as formidable as it is, is relatively insignificant compared with the disabling morbidity resulting from it. The disease manifests a deadly affinity for the vital organs, particularly the heart, blood vessels, brain, and spinal cord. Fully 25 per cent of insanity and one-third of hopeless paralytic cases are due to syphilitic infection. In addition, blindness and deafness are frequently caused by involvement of the optic or auditory nerve in the specific process. Indeed, no tissue in the body is immune to its destructive action and it is often transmitted to succeeding generations.

While this state of affairs is perfectly well known to every public health officer, one is greatly disappointed in studying the annual health reports to learn that a great many of them appear to ignore the problem entirely. The reason may be that state officials are sometimes guided by political consid-

erations to some extent, and it is a part of the creed of politicians to pass up unpopular campaigns. Nevertheless, some are very much concerned about the seriousness of the situation and are actively combating the spread of the contagion with every weapon at their disposal. For instance, Dr. Kimmerer, the Director of the State Hygienic Laboratory of Mississippi says, "Syphilis is a much more serious problem in the state than is generally known." In the period from July 1, 1927, to June 30, 1929, 22,210 cases of gonorrhea and 14,223 cases of syphilis were being treated by qualified physicians in Mississippi. The Lord knows how many more cases were being made worse by quacks, chiropractors and drug store prescriptions. During the same time, there were only 3,517 cases of tuberculosis, 2,215 cases of cancer, and 10,874 cases of pneumonia treated in the state, the prevalence of the venereal diseases being greater than all other diseases combined, except malaria which is notoriously rampant in Mississippi.

Dr. George H. Bigelow, Health Commissioner of Massachusetts, says: "Next to the common cold, gonorrhea and syphilis are the most important of the communicable diseases in Massachusetts." "Yet, because of the associated taboo, they are the most difficult to control." Dr. Bigelow thinks this is so because we cannot effectively use our knowledge (which is ample) because of the psychological factor which is so important and so very different in the various elements of the population. However, Massachusetts, as usual, is in the forefront in trying to build up a sane and informed public opinion. And how can any state afford to do otherwise? About 70 per cent of all men have been infected with a venereal disease. Twenty per cent contracted the disease after marriage and at least one-half of these infected their wives! Still, in the annual report of the Health Department of South Carolina for 1931, there is no recommendation made for alleviating or preventing the venereal diseases. Likewise, in the report from Arizona for 1931 there is not one word mentioning the venereal diseases, directly or indirectly.

Contrasting sharply with the last mentioned states, Dr. A. E. Bostrom, of South Dakota, has this to say upon the subject: "Syphilis and gonorrhea have been mentioned in whispers. It is time we take a more sensible view of these diseases that are causing so much suffering, helping fill our schools for the feeble-minded and our insane asylums and causing, according to some of our best authorities, 80 per cent of the abdominal operations in women." South Dakota, needless to say, has a modern Division of Venereal Diseases, utilizing every available means to educate the public and treat the afflicted.

In other states, the health authorities are making earnest efforts to correct the inexcusable neglect of the venereal disease problem. Dr. A. C. Jost, secretary of the Delaware Department of Health, acknowledges the half hearted measures which have been in existence and states that an effort is being made to correct the defect. Among the states doing everything possible to solve the problem are New York, Illinois, Pennsylvania, Rhode Island, and Massachusetts. Others, like Michigan, while not mentioning specifically the venereal diseases in their annual reports, show that they are cognizant of their importance in a public health program. Lectures to high school pupils, teachers and parent-teacher associations are their chief means in educating the public. Law enforcement is only resorted to in exceptional cases where flagrant violations of orders against spreading the infection occur.

This, then, in a general way is the attitude of the several states towards removing this growing menace to the health and happiness of our citizens, varying from extreme inaction in Virginia, Arizona, Montana, and South Carolina to modern and efficient staffs devoting their entire time to fighting the progress and ultimately removing the venereal diseases as a public health problem in New York, Pennsylvania, Mississippi, Illinois, Rhode Island and Connecticut.

We may as well admit, however, that there is danger in too much activity as well as in inaction. It is an axiom in preventive medicine that administrative control of communicable diseases is obviously impossible. The best that can be done is the education of the laity as to the causation and the early signs of these diseases and the proper measures for their prevention and cure. Herein lies the danger of over-zealous propaganda and ballyhoo in putting the matter before the public. Recent experience in this country has made it pretty plain, I think, that morals cannot be legislated into people; nor can

they be frightened into compliance with any program until they have been educated as to the need, the desire and the benefits to be derived from a given course of action.

Thus, I have no sympathy whatever with strict law enforcement except in the case of the most callous offenders. Likewise, the display of posters of a sensational or exaggerated type are in my opinion undesirable. Only the fundamental practical facts relative to the diseases in question should be brought before the public.

Motion pictures are helpful in putting across some essential knowledge which every layman should have but as a rule inaccuracy creeps in during the process of dramatization which detracts somewhat from an otherwise valuable medium of instruction.

The "health code," or the "visual health educational car" as it is sometimes called, while of great value in educational work in connection with the communicable diseases in general is not so well adapted to the venereal diseases. This is my own opinion and is open to discussion.

Venereal disease clinics have undoubtedly been helpful in some localities but for all persons who have availed themselves of this service there must have been five others who for one reason or another have sought treatment from drug stores or quacks. It would seem that the chief usefulness of public clinics would be in large industrial plants where routine examinations and proper treatment can be required to qualify the worker for continued employment. The question of infringing upon the rights of private physicians is to be considered so that it might be more profitable to permit the patient to employ a doctor of his own choice, provided he is qualified, the state bearing all or a part of the expense in the case of indigent persons in the manner to be mentioned hereafter.

It appears, then, that probably the best method of controlling venereal diseases is based upon three fundamental principles, as follows:

1st—Education of the physician.

2nd—Education of the laity.

3rd—Social service to follow up and uncover foci of infection.

EDUCATION OF THE PHYSICIAN

Post-graduate demonstrations are unquestionably the best method of imparting to the general practitioner the special knowledge required to successfully treat the great majority of the patients applying for relief from syphilis, gonorrhea, chancroid or malignant granuloma. For the purpose of imparting the essential information, the State Department of Health should retain the services of an expert in the diagnosis and treatment of these diseases, who should be available for consultation with any reputable physicians in the state, in need of advice. It would be hoped that on such occasions we could impress upon the physician the necessity for early diagnosis and its importance in preventing neuro-syphilis, a fact which has already been taught during the post-graduate demonstration.

It would not be beyond our hope to teach even those physicians in remote sections to collect serum from an ulcer properly and possibly to do the dark field examination themselves in the case of the better prepared or properly equipped men. Or, if the facilities were not available, at least every county health unit should be equipped to do this work. For this early period, the first four to six weeks, when the Wassermann or Kahn is usually valueless, is potentially the period of greatest danger for the luetic subject, often causing him to refuse treatment because of laboring under the false security of a "negative blood test." It is just at this time when intensive treatment is most effective that the greatest security against circulatory or nervous involvement can be obtained.

For the same reason, every physician licensed to practice medicine should know how to collect spinal fluid for examination. A simple procedure like a spinal puncture should not be made to take on the aspect of a major operation. This service must be available at least at every county seat. You can't treat syphilis properly without it. Of course, if Swift and Ellis treatment or malaria inoculations are indicated, hospitalization becomes absolutely necessary.

During the World War it was my duty to instruct many of the "run of the mine" doctors in the measures I have mentioned, together with somewhat more difficult procedures concerned in the treatment of the posterior urethra due to gonorrhea. It was really remarkable to observe the facility with which they mastered these rather trying procedures.

This service rendered by the State Health Department is very much less expensive than maintaining free clinics at strategic points throughout

the state and serves the purpose of training general practitioners in the latest approved methods. When the physician is paid a small fee by the state and supplied with arsenicals, bismuth and mercury, the cost is probably less than the maintenance of clinics. Besides the infected individual is spared the time and trouble of traveling to and from the clinic and is more apt to report regularly for treatment, increasing thereby his chance of recovery. Again, the physician is pleased and gives full cooperation in removing infected foci in his community.

Regular letters from the Health Department inviting all physicians to avail themselves of the service are forwarded after putting the matter before the State Society and contacting county medical societies.

EDUCATION OF THE LAITY

The belief that information relative to the venereal diseases is taboo is not in my opinion correct, if such information is sensibly and discreetly presented. I think that people with any judgment at all, both men and women, are alive to the need of a sane program for imparting to adolescents under their care the facts concerning the social diseases.

As previously stated, I do not subscribe to the view that spectacular or dramatic methods are needed for the purpose. I am of the opinion that a quiet simple statement of facts with no mention of penalties is the best way to approach youth. We must forever keep in mind that they are not restrained by fear nor are they to be browbeaten—these modern youths of the 1934 model. They are much better educated and possess greater poise than we did at their age, and I have learned to admire their frankness and honesty. These youngsters, boys and girls, are amenable to reason but adamant against coercion. When you have explained the simple facts in regard to the venereal disease problem, the present generation will give you respectful consideration and will act according to their opinion of the merits of your case. The best way then in my opinion is to give talks, not lectures, to organized groups, both male and female. It will do no good to do this occasionally—it is necessary to talk regularly and frequently over a long period of time.

High school pupils, teachers and parent-teacher organizations form a very intelligent group, through which knowledge upon the subject is disseminated to less fortunately situated people. Church organizations, Women's Clubs, and civic bodies, like Rotary and Kiwanis and Lions, are all very progressive and anxious to hear intelligent speakers upon any constructive subject. These meetings should be well advertised and made attractive in various ways. Illustration by means of slides is helpful but for Heaven's sake don't use dime museum or sob story stuff. Conservatism is more fruitful of results.

These lectures together with selected literature upon the subject, regularly distributed throughout the state by the Bureau of Venereal Diseases, can be depended upon to bring results in reducing the frequency of infection and of curing foci. The idea is to prevail upon them to seek proper advice through informed channels. No cavalcade, bearing wax models of loathsome disfigurement, no ballyhoo, just plain facts.

SOCIAL SERVICE

In case of flagrant violators of regulations or carelessness in presenting themselves for treatment, a follow-up system is essential in any plan of venereal disease control. Where cooperation cannot be obtained by patient reasoning and explanation, it is necessary to demand compliance by compulsion. For this work, social service workers notify the delinquent and in case the notice is disregarded a personal visit is made, when the necessity of regular and sufficient treatment is stressed, calling attention to the infected individual's relation to the rest of the community as well as to his own welfare. If, in spite of all warning, the person continues to be lax or careless in his behavior or in applying regularly for treatment, then and only then is the law enforcement officer brought into the case.

Such are my views after twenty years devoted to this work in connection with the U. S. P. H. S., the Virginia State Board of Health and in the Social Service Department of the E. I. duPont de Nemours Company. Lastly, I wish to state apologetically that I believe the best work for the prevention and cure of venereal diseases has been done outside of organized medicine. A resolution was offered at the Norfolk meeting of the Medical Society of Virginia in 1930, by Dr. Dudley C. Smith of the University of Virginia, which was duly seconded and approved, advising a cooperative effort by the De-

XUM

partment of Clinical Education of the Society and the State Board of Health in evolving a program for the better handling of the venereal diseases. I have heard of no action having been taken toward fulfilling the purpose of the resolution. In the meantime, the honor for consistent persevering and effective progress in the solution of this very important problem goes to the American Social Hygiene Association. I hope by coordinating the efforts of this active organization and the Medical Society of Virginia, that the State Health Department will initiate a live campaign under the Bureau of Venereal Diseases to the end of lessening and finally removing this scourge entirely.

1211 Wilmington Avenue.

THE RELATION OF SYPHILIS TO HEART DISEASE.*

JAMES W. HUNTER, JR., M. A., M. D., F. A. C. P., F. A. C. R.
Norfolk, Va.

I wish that I might tell you in honeyed words how very deeply appreciative I am of the invitation extended by your Chairman to address you at this time upon some phase of heart disease; but the truth is that I am not appreciative. For upon a certain night in last August, when the heat was most oppressive and those unprotected by window screens were the prey of the mosquito (even then, however, we heard an occasional canto), the telephone bell rang and the call was answered by a very sleepy and tired medical man. To the invitation extended by the Chairman all sorts of pleas and excuses were duly offered, but the voice at the other end of the wire was unwilling to entertain a refusal. Accordingly, I am here before you. If, therefore, this communication should prove dry or uninteresting, the blame must rest upon the Chairman. If, on the other hand. there be aught of merit or any little excellence, the speaker will not refuse to take unto himself any little praise, even unto the "nth degree."

I am reminded, as I grow older, that it is among the ordinary things of life that we live and dwell. So, while it would be of more than passing interest to present to you some extraordinary patient, to exhibit some extraordinary malformation of the heart, or to write a paper upon some extraordinary topic, it must be recognized that any one of them would prove in the long run more or less ephemeral. Accordingly, I have selected as my subject "The Relation of Syphilis to Heart Disease," for I feel that a review of this will be of interest to all and that a free discussion will add materially to the knowledge of the speaker as well as to that of his hearers. Syphilitic heart disease is, with the exception of hypertonic heart disease, the most common type of cardiac disorder in our own locality. It is with us and always will be. Dodge it as we may, it re-appears upon all occasions. We cannot evade the issue.

Then, too, I am also reminded that if syphilis is no respecter of persons, syphilitic heart disease is no less so. No class of society is immune. I have found syphilitic heart disease among the clergy, the legal profession, merchants and other business men, and, I regret to say, among many of the members of our own profession. A sociological, as well as a medical, question thus arises. The cases of elderly ladies, who have been innocently infected, and of the children of syphilitic parents, these also present a problem, though it must be confessed that congenital syphilitic heart disease is quite rare. Yet the problem remains. Of course, we of the South are more than familiar with syphilis in the Negro, but it is of the syphilis occurring among the educated members of the white race (and especially among those high in the social, political and business worlds) that our greatest problem arises. To this I would call your attention, for education has apparently had little or no effect upon the spread of the scourge. Will further education, preventive medicine, improved hygiene, or even economic and sociological measures have a tendency to prevent its ravages?

The history of syphilis and its spread over continental Europe and Great Britain is quite as romantic as the most captivating novel. According to

*Read before the Norfolk County Medical Society, Norfolk, Va., December 18, 1933.

most writers, the followers of Columbus contracted the disease from the Indians in the Island of Espanola or Hayti. Returning to Spain they introduced the disease. A little later Charles VIII, of France, decided to invade Italy. Accordingly, he amassed an army, among whom were large numbers of Spanish hirelings and the usual camp followers or ladies of pleasure. He laid siege to Naples in 1494 and it was here that the first appearance of syphilis on a large scale appeared. From Naples it gradually spread over Europe, reaching the Netherlands, Russia and the British Isles. At first the scourge was called the French disease, or Spanish or Italian disease, or what not. It was not until 1530, when Francastoro published his poem on "Syphilis sive Morbus Gallicus," that the present terminology was adopted.

This account, however, is denied by some. They even maintain that syphilis was present in Europe in a mild form before the departure of Columbus and that his followers introduced it into the West Indies, where it was grafted upon a new soil. Upon their return to Spain there followed a re-introduction into Europe. There are some, also, who would contend that syphilis is mentioned in the Bible. They refer to the declaration in the Decalogue that the sins of the fathers are visited upon the children, to the various descriptions of the sufferings of Job, to the admonitions of Solomon in his Proverbs and to other passages in the Book. But no authentic syphilitic fossil remains have been discovered in Europe of an origin prior to 1492. Nor have any syphilitic fossil remains been discovered in America of a pre-Colombian origin. To quote Hrdlicka, of the National Museum: "The bones of ancient Egyptians and similarly those of the old peoples in Asia Minor show nothing that could be definitely diagnosed as the disease in question." In a lecture before the American College of Physicians in 1932 he suggested that syphilis had existed in a mild form among the American Indians (not sufficient to leave any bony traces) and that it was acquired from them by the followers of Columbus and planted upon a new soil. Be all this as it may, however, the definite birth of syphilis, as we now know it, was during the siege of Naples in 1494.

I have often wondered why in some individuals syphilis manifests itself in the osseous system; why in others the nervous system, and why in still others the heart is affected. I have often wondered if there are not several strains of the spirochete, even as there are of the streptococcus. How else can we explain this selective action? Then, too, why do certain races respond one way and some another? To give just one example: why is syphilitic heart disease so very prevalent in the Negro; yet the parasyphilitic diseases so comparatively rare? Or, again, while no part of the body is immune, why are some syphilitic lesions so infrequent? Personally, although I have seen many cases of gastric disease, I have seen only one that I can conscientiously consider as true gastric lues; equally true is the question of lung syphilis; syphilis of the bladder is almost a pathological curiosity. And, in conclusion, why is it that often only selected spots of a given system are attacked? Is this due to the resistance of the other parts of the system, or has a certain strain of the spirochete a certain affinity for a certain part?

This reasoning is particularly applicable to heart disease, for, while syphilitic myocarditis is fairly frequent, syphilitic heart disease is almost always limited to the aortic valve and to the portion of the aorta just above it. Thus we may have aortic regurgitation, aortitis, aneurism of the aorta and coronary occlusion. Like the rheumatic bacillus, there is a selective action, for, while aortic stenosis is usually due to rheumatic infection, and coronary disease may be due to this as well as to hypertension or syphilis, the rheumatic bacillus seems particularly selective of the tissues surrounding and composing the mitral valve. It will also be observed that both rheumatism and syphilis are partial to the left heart. Formerly we were taught that gonorrhœa selected the right side. But, be this as it may, it will be observed that in general syphilitic heart disease is confined to the tissues adjacent to the aortic valve and aorta and that the damage resulting to the mechanism of the heart is directly due to mechanical changes produced by the primary lesion.

An insufficiency of the aortic valve will naturally be attended by a leak, for which nature must compensate; otherwise, the heart will fail. There thus results an enlargement of the left ventricle with a consequent hypertrophy of the cardiac muscle. Similarly, there must be some increased resistance of the chordae tendineae and the tissues comprising the mitral valve. Hence, an enlargement of the heart to the left side will be noted. Aside from the murmur to be heard over the aortic area and

elsewhere, a murmur diastolic in quality, little circulatory trouble will develop as long as the compensation is reasonably complete. But let the advance of the disease continue and we may expect a secondary invasion of the mitral valve and all of the ills resulting from a failure of the heart to do its duty.

Often, however, the part affected is not the aortic valve but the aorta itself. A distinct enlargement will be observed; to what extent is a problem, for, while a congenital enlargement is quite possible, the enlargement due to a syphilitic invasion must be differentiated. In general, we feel that a cross section greater than six and a half centimetres in diameter is pathological, although there are some who teach that a cross section as great as eight centimetres may be normal. At times the intima of the aorta is attacked and gives way, leading to a weakening of the wall and a diverticulum, which gradually enlarges with the production of a sac or aneurism, the portion of the aorta involved being usually the ascending portion and arch, though the descending portion, the innominate, the carotids and the subclavians are by no means immune. Nor are these sacs to be considered as simple diverticula, for often secondary ones develop. Some of them become enormous and press forward upon the chest wall with a bulging of the sternum, the so-called dissecting aneurism; some press upon the recurrent laryngeal nerve, with the development of a hoarseness; some press against the œsophagus and prevent swallowing.

To my own mind, however, the genesis of a coronary occlusion is the most interesting of the many lesions which may be due to syphilis, though no one would claim that all cases of coronary occlusion are due to syphilis, as hypertension and rheumatism probably claim the greater number. Primarily we are dealing with a gummatous lesion which involves the mouth of one or both coronary arteries. Now, as the function of the coronary arteries is to supply the musculature of the heart with blood, it is easy to see the results which follow a complete or partial occlusion of the vessel. There will follow a certain amount of necrosis with an impairment of the function of the heart, an increase of the sound musculature, an attempt to compensate, so that the heart may continue to carry on its work, and a final effort to develop a collateral circulation. An anoxemia usually results. Clinically we have a severe substernal pain radiating down the left arm (though sometimes the patient only complains of an indigestion), a feeling of suffocation and often a sudden exodus.

This brings up the question as to what is the nature of angina pectoris. If a heart definitely affected with coronary disease is percussed or placed under the fluoroscope an enlargement to the left will often be noted. But not so with a heart only affected by an angina pectoris. Yet many of the clinical symptoms are the same. There is, however, no enlargement of the heart in the case of an angina pectoris, nor are there any objective signs. According to Heberden and his followers, there is no pathology that is demonstrable in a case of angina pectoris; in general, it can only be diagnosed by the history, an observation of the actual attack and a response to the nitrites. Further, it has been observed that angina pectoris seems limited to the more nervous and educated individuals of the white race. Lately, however, Lewis and his adherents seem to feel that angina pectoris is in some way akin to coronary thrombosis and even go so far as to consider its etiology as a syphilitic one. This question we shall not attempt to decide and shall leave it to the pathologists and other investigators.

If the etiology of syphilitic heart disease is interesting, the clinical examination is no less so. To the questions asked our patients as to why we are consulted, all sorts of answers will be given: palpitation or heart consciousness, difficulty of swallowing, swelling of the feet, dyspnœa, dyspepsia, pain, etc. But it is upon the direct observation that the diagnosis must rest, observed phenomena varying, of course, with a varying etiology. Thus, in aortic insufficiency we may expect to find a definite diastolic murmur, best heard over the aortic area, or to the right of the sternum and in the second interspace. We shall also find an enlargement of the left heart. Further than this, an early and well compensated case is likely to give no details. As time goes on, however, signs of a failing compensation will be observed, signs of a mitral insufficiency, swelling of the feet or legs, pulsation of the veins of the neck, an inability to work, difficulty in breathing, œdema of the lungs, etc. Similarly, a pure aortitis or early aneurism is likely to be overlooked. The physical signs are most deceptive, for the area of dullness as observed by the percussing finger is due to the encroachment of the aorta upon the ster-

num. When we deal with the symptom of pain, however, a careful examination of the history will be required in an attempt to differentiate the type of pain. Are we dealing with neuro-circulatory asthenia, angina pectoris, or coronary occlusion? This often will tax the ability of the clinician to the utmost and make him search for all available information. Personally, I feel that our patients should be encouraged to tell their stories unaided so far as we are able; for, as I have said upon many occasions, a skilful questioning is apt to elicit any history, which the questioner may desire.

If we will study the excellent book of Vacquez and Bordet or that portion of Assmann's Roentgen Diagnostic Clinic of Internal Medicine dealing with the heart, we shall be led to feel that the lesions of the heart may be entirely diagnosed by the shadow as cast on the roentgen screen or plate. But, when their teachings are sifted down, it must be confessed that only the "stair step," which will be found over the area of the left auricle, is diagnostic. This, when found, is to be considered as pathognomonic of mitral stenosis. Aortic stenosis will produce an enlargement of the left ventricle as well as an aortic regurgitation. Mitral regurgitation also is attended by an increase of the size of the left ventricle, though theorctically we may look for an accompanying enlargement of the right heart. In any case, an enlargement of the heart may be noted due to an hypertrophy of the cardiac musculature as well as to the enlargement of the left ventricle. This enlargement also often accompanies a coronary occlusion, for, as we have said above, an attempt will be made by nature to overcome the difficulty caused by a local necrosis and to establish, if possible, a colateral or compensatory circulation.

It will be noted that I have made no reference to the technique of the roentgen examination. Two schools of thought exist. One, the Continental or Viennese method, dwells upon the fluoroscope and employs the orthodiagraph, for they claim that the resulting tracing has no diffraction. The method is in many cases eminently satisfactory, for it correctly portrays the size and shape of the heart and of the great vessels. Further, it has the advantage of being inexpensive (I am told that poverty in Vienna has produced a scarcity of roentgen materials), but I would impress upon you that this method is time-consuming and attended by some danger upon the part of the examiner. The teleroentgenogram, on the other hand, will certainly give us a slight increase in the size of the shadow, but it gives us a permanent record, is attended by none of the dangers of the fluoroscope and completely eliminates the personal equation. An œsophagram will tell us whether an enlarged arch or aneurism is pressing against the œsophagus. It must be added, however, that in X-ray examinations both methods must be used, for, when the enlargement of the aorta is observed, as in the case of an aneurism, a diagnosis of tumor may be made. More especially is this true when a blood clot has formed in an aneurism and the pulsation is limited or obliterated.

It will be likewise noted that I have not gone into great detail in regard to the physical method of examination by percussion. I do feel that this method is most valuable; in fact, it is one of the most valuable methods that have been added to our methods of diagnosis. But it must be confessed that it is not often possible to make the same interpretation by the method of percussion as with the fluoroscope or roentgen plate. Hence I would urge upon you the combination, or, in other words, the routine employment of one of the roentgen methods. Similarly, I would urge upon you the checking up of all murmurs by the roentgen method, for murmurs at best are often most deceptive. I have seen many failures by our best men. Personally, I am of the opinion that no murmur is of any great consequence, unless it is attended by some change in the shadow of the heart, as observed upon the roentgen screen or plate, but this phase of the question is open to the fullest discussion.

Likewise, it will be noted that nothing has been said in regard to the Wassermann or other serum tests in syphilitic heart disease. While, theoretically, all cases of syphilitic heart disease should give a positive Wassermann reaction, those who have done large amounts of blood work and are familiar with the subject, tell us that we may expect negative results in a certain number of cases and that a positive diagnosis must be made by other means. Fortunately, in general, the findings are so positive that the Wassermann test is unnecessary. Such is the case in aortic regurgitation, aortitis and aneurism. These must be considered as syphilitic until proved otherwise, even as an apical pulmonary lesion must

XUM

be considered as tubercular. It is well also to consider that syphilis may exist and give a strongly positive Wassermann reaction, while a co-existing heart lesion is due to other causes. Here, especially in the case of a coronary occlusion, a number of opinions may exist. The fullest co-operation of all methods of examination is necessary.

Nor have I mentioned the use of the electrocardiograph. It is, as you know, an instrument that will correctly record and subdivide the heart-beat and the only instrument that will give us any knowledge in regard to the integrity of the heart muscle. I wish that a routine electrocardiogram could be had of every cardiac patient, even as a roentgen and Wassermann examination, for often unsuspected lesions are brought to light. In the case of syphilitic heart lesions its use is especially important, for, although there are those who claim that they can diagnose valvular lesions by this means, it is the varying changes produced in cases of coronary disease (I refer to the inversion of the T-wave) that will aid us most. We may definitely differentiate between angina pectoris and coronary disease. Nor would I discourage the use of the sphygmomanometer, as a syphilitic hypertension is most frequent, likewise, with the palpation of the radial pulse. No one of these can definitely diagnose syphilitic heart disease, nor all three together, but their intelligent use will help us very materially in our final opinion.

To go into the prognosis of syphilitic heart disease in a lengthy way is not the object of this paper. We are all acquainted with the fact that, as the lesion progresses, we may expect a proportionate failure of compensation in an aortic regurgitation, a possible rupture of an aneurism, or, in case of coronary disease, a sudden death. Yet we all know of cases where a useful life has been prolonged and death has been due to causes other than syphilis. Especially is this true in the case of many physicians. One in particular, whom I knew well, had an extraordinarily large aneurism, but in spite of this handicap he attended to a large practice, especially abounding in obstetrical work, and died of a gouty diathesis. Similarly, I may say that I recently saw in consultation a minister of the gospel, an ex-army chaplain, who had served many rural churches in North Carolina. He had become ill; the pain and discomfort attending a coronary occlusion had rendered him no longer fit. But he had done his work well. Likewise with the other professions and laborers. So, if the question of prognosis in regard to syphilitic heart disease be asked, we must reply that as long as the individual is not disturbed by the lesion, he should be instructed to take care of himself and a moderate amount of exercise should be allowed. When, however, the compensation begins to fail, we may look for a rather rapid decline and death. No one can speak with certainty in answer to the time that our patient may survive; but, in general, a warning must be sounded and the exodus awaited.

Nor it it my intention to discuss in detail the treatment of syphilitic heart disease. Suffice it to say that here again there are two schools of thought. There are those who would claim that there is little or no use in treating the lesion as such, as the damage has been done; that further damage is not likely to follow; that the lesion belongs to the third stage of syphilis, and is, therefore, not contagious. Personally, I would freely acknowledge the almost utter hopelessness of trying to render a moderately aged or elderly person either Wassermann or symptom-free (this particularly applies to the case of elderly ladies, who have become innocently infected), but I have felt that something may be done and have freely administered the iodides (or, if you please, the familiar saturated solution of potassium iodide), as I have felt that the administration of the arsphenamines was probably too strenuous. In almost every case I have been rewarded. There are those, on the other hand, who would endeavor to cure the patient. Personally, I have felt that the course as advocated by White, of Boston, was the correct and sensible one. He advises a course of antisyphilitic treatment once a year, the kind of treatment to be determined by the character, age and condition of the patient. I have often asked the question as to whether a heart lesion may be definitely prevented by an early or moderately early treatment of the second or third stage of the disease, or whether the use of the arsphenamines has had a tendency to decrease the incidence of syphilitic heart disease, but the authorities differ so radically that I shall refrain from quoting any.

Such is essentially the history, etiology, diagnosis, prognosis and treatment of syphilitic heart disease. Syphilis as a scourge has been among us since the end of the fifteenth century, or a little over four hundred years. Yet its victims number many millions.

It is now among us and is likely to stay indefinitely. Like all great pests this one has been spread by education. Beginning with the conquest of the New World by the peoples of Europe, syphilis has manifested itself among the Caucasian race. Similarly, the discovery of Asia by the followers of Vasco de Gama and other travelers seems to have introduced it among the Orientals, though this origin is denied by some. Certainly education and discovery have introduced the pest among the peoples of Africa. The Negro race is the last to become infected. We have shown that, as syphilis seems to be selective, there is, apparently, a selective action upon the heart. As this selective action is also hyper-selective, the portion of the heart in general selected is confined to the aortic valve, the aorta and coronary arteries; that it is the development from these foci that produces the enormous hearts and aortas that we so frequently find. We have also shown that the examination must be made by all the means at our command, by the history, the symptoms, the physical examination, serologic methods and the instruments of precision. We must repeat that, of all of our senses, that of sight is the most acute. Hence the employment of the roentgen screen and plate. We shall also employ all indirect means. We shall employ the electrocardiograph and the sphygmograph. We have reviewed the prognostic aspect of the problem of syphilitic heart disease. We have touched upon its treatment.

We have, however, said nothing in regard to the economic losses due to syphilitic heart disease; of the loss to the State and society; of the great tax on the community, the hospital and organized charity. Truly, the amount of human wastage and loss of productive power is appalling. Measured in money or in the cost of hospitalization, the loss is equally prodigious. Can any or all of this be prevented? This is our problem. Once upon a time we used to consider typhoid fever, tuberculosis and syphilis as the great triology, the three greatest factors that were devasting and killing the human race. Thanks to education, improved hygiene and vaccination, the scourge of typhoid is almost eliminated. We need only compare the great number of American soldiers lost by the disease in the Spanish-American War with the relatively insignificant infection from this source in the World War. Similarly with tuberculosis. Education, improved hygiene and an early recognition of the disease have almost resulted in its control. Can we hope that more education, improved hygiene, prophylaxis and moral suasion may, likewise, control the curse of syphilis? No one can expect a utopia; but if each one of us will do his part toward the control of syphilis, a better and healthier State should ensue. "Then only shall wisdom cry aloud in the streets." "Then only shall we know the truth and the truth shall make us free."

Medical Arts Building.

ARACHNOIDISM ON THE EASTERN SHORE OF VIRGINIA.

W. CAREY HENDERSON, M. D.,
Nassawadox, Va.

Through the kindness of Dr. E. Holland Trower, of Eastville, Va., I was permitted to see a case of arachnoidism as reported below. On inquiry I found there had been fourteen other cases among my colleagues. The paucity of reports in the current literature suggested my making this report to the Physicians Journal Club of the Eastern Shore of Virginia.

T. H. T., a colored male, ten years of age, felt a sting on his shoulder while carrying a watermelon from the field. About thirty minutes later he was seized with severe cramping pains in his abdomen. Three hours later he was seen by Dr. Trower who made the diagnosis of arachnoidism, in spite of the insistence of the boy and his family that he had simply eaten too many grapes. He was given codeine sulphate gr. ¼ and sent to the hospital for observation.

On admission he still complained of pains in his abdomen and, in addition, severe pains in his legs. Examination revealed a board-like rigidity of the abdomen with little distention. His legs were a little stiff and very tender along the anterior tibial muscles. The pulse was 84 and absolutely irregular but of

XUM

fair quality. Temperature was 99.4, respiration 18. Reflexes not affected. History was not suggestive.

Laboratory work showed a hemoglobin of 95 per cent (T), red cells 3,928,000, leukocytes 11,600, of which 83 per cent were polys and 17 per cent lymphs. Urine was negative.

Treatment was instituted as follows: Morphia gr. 1/6 on admission, followed by a proctoclysis of glucose 1 per cent and soda 0.5 per cent.

Twelve hours after admission his pains were much less, though he had vomited three times in the interim. Rigidity was less. Symptoms and findings gradually became less until his discharge at the end of thirty-six hours.

On reference to Dr. Peple's report in March, 1930, and Dr. Vaughan's report of two cases in March, 1931, both in the VIRGINIA MEDICAL MONTHLY, I found that all cases follow an identical train of symptoms, but with variations in intensity.

Specimens of the "black widow" spider have been found in numerous cases reported to me by my colleagues on the "Shore."

Woman's Auxiliary to the Medical Society of Va.

President—MRS. JOSEPH BEAR, 3012 Monument Ave., Richmond.
President-Elect—MRS. FLETCHER J. WRIGHT, Petersburg.
Recording Secretary—MRS. JAMES B. STONE, 2042 Park Ave., Richmond.
Corresponding Secretary—MRS. AMBROSE MCGEE, 4107 Kensington Ave., Richmond.
Treasurer—MRS. REUBEN F. SIMMS, 2034 Park Ave., Richmond.

Greetings from State President.

As 1935 has arrived, let us pause to take an inventory of ourselves as physicians' wives. Have we fulfilled our duties? Let us resolve to devote our energy towards promoting acquaintanceship among physicians' families that the spirit of fellowship may increase. Let us endeavor to build faith in this profession by being ardent members of the Woman's Auxiliary to the Medical Society of Virginia for surely we can become better for it by infusing our own character with the virtues reflected from this noble calling.

I trust that you will realize that it is a privilege to belong to an Auxiliary to a profession which has the approval of all mankind. We ask your encouragement by helping to increase membership.

Those of you who attended the meeting in Alexandria I hope were stimulated by the report of the various groups to devote your attention to the problems of organizing where it is needed and to direct your energy toward improving Auxiliaries already organized.

To members and friends permit me to say that to you I shall be indebted for whatever success we may attain together. You shall be my inspiration and my stimulus. Without you my efforts shall be feeble, the results unprofitable. May I add in behalf of the administration, that constructive criticism and helpful suggestions will be welcome.

Our chief purpose is to maintain the standard and broaden the scope of our work and in this we ask your full understanding and hearty cooperation.

I am grateful for the privilege and honor you have bestowed upon me and trust that I shall merit your confidence.

May the coming year bring you and your families a full measure of health and happiness!

(MRS. JOSEPH) KATE C. BEAR.

The Woman's Auxiliary to the Richmond Academy of Medicine

Entertained at tea, Friday afternoon, November the 9th, at the home of Mrs. Lee E. Sutton. This was given in honor of the wives of the Richmond doctors and was held in place of the November meeting of the Auxiliary. The guests were received by Mrs. J. B. Stone, President of the Auxiliary, Mrs. Joseph Bear, President of the State Auxiliary, and Mrs. J. B. Dalton, one of the past Presidents of the local organization.

The reception rooms were beautifully decorated with chrysanthemums and other fall flowers, yellow, green and white being the predominant colors. Mrs. J. Allison Hodges and Mrs. Ramon D. Garcin presided over the tea table, which had as its centerpiece a bowl of yellow and white chrysanthemums and four candlesticks with yellow candles tied with bows of green.

Mrs. T. B. Washington, as chairman of the entertainment committee, was ably assisted by Mrs.

Charles P. Mangum, Mrs. J. O. Fitzgerald, Mrs. F. J. Wampler, Mrs. E. T. Gatewood, and Mrs. A. G. Shetter.

The party was genuinely enjoyed by the many ladies present and was a pleasant way for the wives of Richmond doctors to really become acquainted. It is hoped to repeat the occasion.

This organization met on the afternoon of December 14th at the building of the Richmond Academy of Medicine, at which time an interesting address was given by Miss Sarah Hartman, on the subject of "Mental Hygiene as Applied to Children." Miss Hartman is a member of the staff of the Children's Memorial Clinic of this city, and her discussion was exceedingly interesting and helpful.

Public Health Statistics

I. C. RIGGIN, M. D.
Health Commissioner of Virginia

The communicable disease report received at the office of Dr. G. F. McGinnes, State Epidemiologist, during November, 1934, showed the following cases compared with the same month in 1933:

	1934	*1933*
Typhoid and Paratyphoid Fever	32	50
Diphtheria	350	452
Scarlet Fever	533	650
Measles	620	143
Meningitis	8	2
Poliomyelitis	4	2
Rocky Mountain Spotted Fever	0	0
Typhus Fever	1	0
Undulant Fever	2	1
Tularaemia	4	7
Smallpox	0	1

VIRGINIA INFANT MORTALITY—1933

As recorded by W. A. Plecker, M. D., State Registrar

The New Zealand vital statistics department reports a marvelous decline in their infant death rate during the past ten years from 40.23 in 1924 to 31.64 in 1933. However, in 1932 their infant death rate was 31.22. Can it be that the low standard set for the world during the past two decades has at last reached rock bottom and the rest of us know just how far away our ultimate goal is?

In contrast to this, the Virginia infant death rate is rising, reaching a new high level in 1933 of 68.0, white 58.7, negro 89.4. Though the actual number of deaths in 1933 dropped from 3,667 to 3,499, the white drop being from 2,215 to 2,107, while the negro drop was from 1,452 to 1,392, the rate in 1932 was only 66.4. This increase in rate in 1933 is due to the great decline in the number of births from 55,245 to 51,460, the whites from 38,988 to 35,896, negroes from 16,257 to 15,564, the infant death rate being based upon the number of deaths under one year per 1,000 living births.

Of the total infant deaths 952 were due to premature births of which 913 were during the first month (neo-natal); injury at birth 228, 223 during the first month; congenital malformations 189, 122 during first month; congenital debility 253, 161 during first month; other causes peculiar to early infancy 91, of which 81 were neo-natal. Thus it is seen that these five groups, largely neo-natal, comprise 1,713 of the total infant deaths, while all other causes total 1,786 or only 73 more. An interesting observation is that while the other white neo-natal deaths largely surpass the negroes in totals and in rate, for congenital debility the negroes total 149 as against the white 104. If accurately classified, would not a considerable per cent of these be transferred to the total deaths of 94 from congenital syphilis, white 28, negro 66?

Respiratory diseases, totaling 433, white 203, negro 230, and those from diarrhea and dysentery, total 382, white 221, negro 161, constitute 815 or nearly one-half of all the deaths other than neo-natal.

There were 74 from whooping cough, 18 from diphtheria, 13 from measles and 3 from scarlet fever.

All other causes not mentioned above total 769, white 467, negro 302.

Let us consider this problem briefly from the standpoint of prevention. Dr. King, the New Zealand health officer, first attacked it by a drive to popularize breast feeding, teaching also the methods of overcomnig the various difficulties, or supposed difficulties, that at times arise in the performance of this natural function. This was done by nurses, lectures, newspapers, bulletins, and by securing the full cooperation of the medical profession. The radio was not then available. Deaths from the diarrheal, as well as from other diseases, were rapidly reduced, and the rest of the world stood off and watched the New Zealand infant death rate drop.

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The deaths occurring in various time periods are shown in the accompanying table:

DEATHS AT AGE OF—

	Total Deaths Under 1 year		Under 1 hour		Under 1 day		1-6 days		7-29 days		Total under 1 month		1-11 months	
	W	C	W	C	W	C	W	C	W	C	W	C	W	C
Total	2,107	1,392	171	65	471	186	353	250	269	200	1,264	701	843	691
Male	1,179	777	80	33	292	98	212	145	149	106	733	382	446	395
Female	928	615	91	32	179	88	141	105	120	94	531	319	397	296

Of course other means were also employed. With the great improvement in sanitation and in bottle feeding made necessary by the growing unpopularity of breast feeding, the diarrheal deaths have fallen to a point where they are no longer the major problem.

Up to the present no marked success has attended the efforts to reduce the neo-natal deaths, if in fact any serious attempt at it has been made by the medical profession and public health workers.

The Bureau of Vital Statistics, though not having the means to prove it by statistics, has long held to the belief that the reports of the premature and congenital debility deaths, totaling 1,141 in 1933, concealed a large amount of congenital syphilis which might be discovered and successfully treated, especially by prenatal work.

This is the most difficult and costly undertaking facing the State Department of Health, and the funds may not be available in the near future for attempting it in any large way.

The physicians of the State, in cooperation with the State Laboratory in making Wassermann tests, may, however, accomplish much by beginning the study of their obstetrical patients as near the beginning of pregnancy as possible, discovering syphilis and other diseases when present and in administering prompt and adequate treatment. Much may be done also by advising as to food, habits, et cetera.

The greater strength of the female, which extends back into intrauterine life, is shown by this table, in which the ratio of male deaths is 127 to 100 female deaths during the first year. This point was demonstrated by Holmes and Goff at the Second International Congress of Eugenics in 1921. In England and Wales from 1841 to 1850, when the infant mortality was 153 per 1,000 births, the ratio was 122 male to 100 female deaths, but when the mortality in 1926 dropped to 70, the ratio of males to females increased to 134 to 100. In New York City when the infant mortality dropped to 56, the ratio of male to female deaths rose to 134 to 100. This selective mortality up to the fifth year still showed a ratio of 125 males to 100 females.

Truth About Medicine

In addition to the articles previously enumerated, the following have been accepted by the Council on Pharmacy and Chemistry of the A. M. A.:

Abbott Laboratories
- **Sulpharsphenamine—Abbott, 0.1 Gm. Ampules.**
- **Sulpharsphenamine—Abbott, 0.5 Gm. Ampules.**
- **Sulpharsphenamine—Abbott, 0.8 Gm. Ampules.**

Wm. S. Merrell Company
- **Diphtheria Toxin for the Schick Test, Diluted with Peptone Solution and Ready for use.**
- **Diphtheria Toxoid.**
- **Diphtheria Toxoid, Alum Precipitated (Refined).**
- **Typhoid Vaccine.**

H. A. Metz Laboratories, Inc.
- **Holocaine Solution 1 per cent.**

Sandoz Chemical Works, Inc.
- **Ampules Gynergen Solution 1:2000, 0.5 c.c.**

G. D. Searle & Co., Inc.
- **Tablets Procaine Borate and Epinephrine.**

Sharp & Dohme
- **Rabies Vaccine (Phenol Killed)—Mulford, 7 vials package.**

Frederick Stearns & Co.
- **Insulin Stearns, 100 Units, 10 c.c.**

Ulmer Pharmacal Co.
- **Sodium Morrhuate 5% Solution with Benzyl Alcohol (Ulmer), 5 c.c. vials.**
- **Sodium Morrhuate 5% Solution with Benzyl Alcohol (Ulmer) 20 c.c. vials.**

PROPAGANDA FOR REFORM

Yeast Vitamin—Harris Tablets and Brewer's Yeast—Harris, Medicinal, Not Acceptable for New and Nonofficial Remedies.—The Council on Pharmacy and Chemistry reports that Yeast Vitamin—Harris Tablets and Brewer's Yeast—Harris, Medicinal, are marketed by the

Harris Laboratories, Tuckahoe, N. Y. Full-page advertisements have appeared in medical journals, containing claims such as: ". . . successfully used and prescribed in anemia, herpes infection, pellagra, ulcers, arthritis and diabetes." The claim that vitamin B may be used successfully in the treatment of diabetes is unwarranted. There is lack of evidence that yeast vitamin B, or any other known vitamin has any effect on the faulty dextrose utilization in uncomplicated diabetes. The claim that yeast is effective in the treatment of pernicious anemia appears to be an obvious misinterpretation of known facts and published data. The only clinically proved indications at the present time for the use of vitamin B (and its related fractions) lie in the so-called deficiency diseases of beriberi, polyneuritis, and, probably, pellagra. The conscientious practitioner would do well to adhere to the established armamentarium in combating such serious conditions as diabetes and pernicious anemia. Insulin and liver and stomach preparations are proved, whereas yeast has only the claims of a manufacturer to recommend it. Neither the trade package nor the accompanying literature contains any statement of potency, nor does the Council know of any published protocols on the assay of the products as purchased on the open market. The Council declared Yeast Vitamin—Harris Tablets and Brewer's Yeast—Harris, Medicinal, not acceptable for New and Non-official Remedies because they are marketed with no statement of potency on the labels; with names of diseases for which they are recommended appearing on the labels, and with exaggerated, unwarranted and misleading therapeutic claims. (Jour. A. M. A., November 3, 1934, p. 1378.)

Utilization of Vitamin A and Carotene.—Many factors ordinarily exert an influence on food materials on therapeutic substances in the intestinal tract, and absorption and subsequent utilization are to a great extent dependent on them. In an attempt to elucidate the reported difference between the utilization of vitiman A from butter and that from cod liver oil in the presence of liquid petrolatum, Dutcher and his associates (*J. Nutrition*, 8:269 (September), 1934), studied the behavior of the pigment carotene under similar circumstances. Groups of experimental animals were given adjusted quantities of liquid petrolatum together with various amounts of butter fat, carotene, cod liver oil and an extremely potent concentrate of cod liver oil. The observations made by these men are generally in accord with other observations made under somewhat different conditions. There is little doubt that vitamin A can be absorbed from the intestine despite the presence of liquid petrolatum. On the contrary, it was found that the pigment carotene, which usually accounts for the vitamin A potency in plants and plant products and which in the animal body is transformed to vitamin A itself, is absorbed from a solution in liquid petrolatum to little if any extent. Both carotene and vitamin A occur in butter and the relative quantities vary. Liquid petrolatum will therefore vary in its effect on different samples of butter. These studies emphasize the unique contrast in external behavior between two structurally related compounds which, once they are inside the body, behave identically. In practice, as has been pointed out, the usual manner of taking liquid petrolatum, i. e., apart from a meal, virtually eliminates the danger of loss of vitamin A or its precursor (carotene), by the mechanism here discussed. (Jour. A. M. A., November 17, 1934, p. 1540.)

Blood Building Claims in Advertising.—The Committee on Foods reports that the whole process of blood regeneration is complex, involving many factors that may be affected by pathologic or disease conditions as well as by adequacy or inadequacy of the diet in iron. Anemia may be due to an inadequate diet, but pathologic conditions are frequently involved. The Committee feels that anemia and blood regeneration are not appropriate subjects for advertising addressed to the public. Blood building claims, therefore, should be excluded from food advertising. (Jour. A. M. A., April 21, 1934, p. 1300.)

Ironized Yeast.—The Bureau of Investigation of the American Medical Association reports that the public has been made what the advertising men would call "yeast-conscious" by the extensive and intensive advertising of the Fleischmann product. The facts are, of course, that as a medicine, yeast has no important place except as a means of furnishing vitamin B, which ordinarily should be and would better be obtained from one's food. But the public is not aware of these facts, so that it is not surprising that, by plausible advertising, a "patent medicine," called Ironized Yeast, has been built up into one of the best sellers in the nostrum field. Ironized Yeast advertising is typical of the times. In the newspaper advertising of Ironized Yeast, skinny versus well-developed men and angular versus well-curved women are brought into juxtaposition with the object of showing how necessary a rounded figure—and therefore Ironized Yeast—is to achieve economic or social success or marital happiness. Ironized Yeast comes in a bottle of fifty tablets, costing $1—that is, the tablets cost two cents apiece. The public is urged to take from eight to twelve tablets a day for from two to three months; thus, at twelve tablets daily, the cost for three months would be $21.60. According to the Ironized Yeast advertising, the product is "made from specially cultured *brewers' ale yeast,* imported from Europe"—claimed in earlier advertising to be from Bass' Ale brewery—which, it is alleged, "by a new process is concentrated seven times." Further, this yeast "is then *ironized* with three kinds of strengthening iron." From the various analyses which have been made of Ironized Yeast, including that of the A. M. A. Chemical Laboratory, it appears that Ironized Yeast is essentially yeast with small amounts of iron and phenolphthalein. The concern which sells it has attempted to obtain testimonials from physicians by offering them a bottle of perfume and testimonials from the general public by the promise of a picture. The Ironized Yeast advertising

carries the impression that by taking the preparation, undernourished and angular women can in a few weeks' time (usually three), be transformed into examples of rounded buxomness, while skinny men, by the same method, can undergo a similar transformation. (Jour. A. M. A., May 19, 1934, p. 1697.)

Treatment of Amebiasis.—According to a group of investigators in California and another group in India, both widely experienced in the treatment of Amebiasis, Carbarsone (Lilly) is one of the most efficient remedies in this disease so far tested. However, many cases prove refractory to this as well as to the other remedies. Vioform-Ciba is claimed by the California group also to be high in efficiency, but this drug is said to be less effective than Carbarsone. The present consensus is that emetine should be used only to control the symptoms of severe acute amebic dysentery and in liver abscess (or amebic abscess of other organs). Acetarsone—N. N. R., is reported to be more toxic and less effective than Carbarsone. Good results have been obtained with Chiniofon—N. N. R. ("Yatren," "Anayodin") in sufficient dosage; this drug has been said to be less effective than Vioform, a closely related compound. Vioform has the advantage over Chiniofon that it does not cause diarrhea. However, clinical experience with Vioform has not yet been sufficiently extensive to determine its actual relative merit as an amebacide. Two brands of Chiniofon stand accepted for inclusion in New and Non-official Remedies, namely, that of G. D. Searle & Co., and that of the Winthrop Chemical Company. Whichever drug or combination of drugs is used, it must be employed in sufficient dosage over a sufficient length of time, with due regard to necessary rest periods to avoid toxic manifestations. The result should always be checked by careful and repeated examinations of the stool for Endamoeba histolytica. (Jour. A. M. A., June 23, 1934, p. 2134.)

Sweets in the Diet, Especially of Children.—The Committee on Foods reports that although sweets are wholesome and valuable foods when given their proper place in the balanced diet, they contribute few or none of the structural components required for good nutrition. Common concentrated sweets used to excess are harmful, especially in the case of children, so far as they impair the appetite for other highly necessary foods and lead to a reduced intake of milk, eggs, fruits, vegetables, meat and cereals. Food advertising that obscures the facts of good nutrition should be condemned. (*Jour. A. M. A.* July 14, 1934, p. 110).

Serum Therapy in Poliomyelitis.—Notwithstanding the total failure of statistical presentations to make a case for serum therapy in this disease, clinical observations almost universally indicate rapid symptomatic response to serum administration. There seems to be an immediate drop in temperature and improvement in symptoms that cannot be totally disregarded. These clinical results have been shown equally after both normal adult serum and convalescent serum, so that there seems to be little preference between these two types of serum. Reports on the use of serum for passive protection in epidemics are inconclusive. It will be difficult to evaluate the efficacy of a prophylactic agent in poliomyelitis on account of the low attack rate even in epidemics, and because there is no method of defining the susceptible group. More data and observation are needed before the final opinion can be given as to the value of serum treatment and prophylaxis in poliomyelitis. (*Jour A. M. A.*, July 28, 1934, p. 262).

A Poliomyelitis Vaccine.—A vaccine that seems to possess the likelihood of efficacy in the diagnosis and treatment of poliomyelitis is at present undergoing development in the Laboratories of the Department of Health of the City of New York. Influenced by the earlier work and also by the favorable results recently obtained with antigens inactivated by germicides in the prevention of other virus diseases, investigators have attempted to develop a new antigen against poliomyelitis. Using extraordinary precautions, the group in charge of these investigations decided to test out the antigenic properties on themselves before attempting inoculation of children with the antigen. Several members of the research group were injected with a vaccine prepared by adding formaldehyde to a suspension of material from the infected spinal cord. It is proposed, after testing the blood of those who have been inoculated to determine the extent of the immunity developed, to carry the investigations further, inoculating children against this disease. The vaccine will, of course, have been established as absolutely harmless by the injection into the members of the committee and also as to its efficacy by the studies that have been made on monkeys inoculated with virus following inoculation with the vaccine. (*Jour. A. M. A.*, July 28, 1934, p. 264).

Book Announcements

Allergy and Applied Immunology. A Handbook for Physician and Patent, on Asthma, Hay Fever, Urticaria, Eczema, Migraine and Kindred Manifestations of Allergy. By WARREN T. VAUGHAN, M. D., Richmond, Virginia. Second Edition. St. Louis. The C. V. Mosby Company. 1934. Octavo of 420 pages. Illustrated. Cloth. Price, $5.00.

In the second edition of Allergy and Applied Immunology by Warren T. Vaughan, printed by C. V. Mosby Co., one will find the essentials of Allergy of today plainly expressed as well as many recent views advanced. This book is adaptable to the layman's mind though is not tiring to the medical mind with the exception that there is considerable repetition from time to time.

In part two of the book will be found complete data on pollens that are factors in Allergy, not only

for this section but for the whole United States. Should one desire it, this compilation should prove valuable for reference.

In part three Dr. Vaughan has considered the food allergens and has listed them in accordance with their biologic families and changes. Also, he has suggested a method of group testing that is original and may prove a useful factor in simplifying the route to a complete "Test Study" of the Allergic individual in so far as food sensitivity is concerned.

The bibliography is complete and up-to-date and this book should be in the library of every physician that is interested in this type of work.

JOHN B. BULLARD.

Institutional Care of Mental Patients in the United States. By JOHN MAURICE GRIMES, M. D. Four Years a Staff Member of the Council on Medical Education and Hospitals of the American Medical Association. Published and distributed by the Author, 1816 N. Clark St., Chicago, Ill. 1934. Octavo of 138-xv pages. Cloth. Price, $3.00.

This is a valuable book for all those who may be interested in the psychopath and his care. The management of the insane is a long and interesting story. The insane have been considered as either divinely endowed or having demoniacal possession. They have been carted from shrine to shrine in the hope of cure, they have been chained in dungeons, they have been publicly or privately slaughtered, they have been both ridiculed and worshipped. The idea of institutional care grew out of monasteries in England, France and Spain in the fifteenth century. Bedlam, in England, was one of the first of these institutions and an idea of how poorly they were regulated can be gained by the fact that the word "bedlam" came to connote, "confusion worse confounded." And then something over one hundred years ago Pinel, in France, unchained the inmates of Salpetriere, but it was not until around 1840 that something like modern care was given these unfortunate people in institutions. About 1895 Weir Mitchell excoriated the superintendents of the insane asylums of the United States for not properly examining, classifying, studying and treating their cases and also for not making laboratory investigations and performing autopsies. Since that time conditions have vastly improved. One often hears about the increase in insanity, but the Encyclopedia Britannica says that regardess of epidemics and variations in habit, the proportion of the insane in the civilized countries of the world remain at about one to three hundred.

From a study of Dr. Grimes' book one realizes the vast strides that have been made in the last few decades and especially through the activities of the National Committee for Mental Hygiene started by Mr. Clifford Beers. One realizes also from Dr. Grimes' book that much yet is to be done, even though as he states that, "35 per cent of the patients discharged from a state hospital as recovered or improved are so discharged or paroled within three months." There are many wise statements in this book. For instance, Dr. Grimes says that "there are many thousands of insane who have never been institutionalized and never will be" . . . "to institutionalize and maintain in institutions all insane would involve impossible and almost inconceivable tax burdens. If a patient is a menace he is entitled to state care until he ceases to be so . . . if only a family nuisance the responsibility of his care rests with the family rather than with the taxpayers." Throughout the book one will find interesting statements and statistics in regard to state hospitals, state schools and colonies, county asylums, veteran administration hospitals and privately controlled sanatoria.

This book is not only valuable to psychiatrists but also to the social worker and the legislator; it is difficult, however, to get the social worker and legislator to seriously read these important works. The social worker and the legislator are all too often moved by wild suggestion, emotional appeal and silly ideas originating in their none too well ordered brains. One can only hope that Dr. Grimes' book will have a wider reading than one would anticipate.

BEVERLEY R. TUCKER.

Diabetic Manual for Patients. By HENRY J. JOHN, M. A., M. D., F. A. C. P., Maj. M. R. C. Director of the Diabetic Department and Laboratories of the Cleveland Clinic. Second Edition. St. Louis. The C. V. Mosby Company. 1934. 12mo of 218 pages. Illustrated. Cloth. Price, $2.00.

The ultimate result in the treatment of diabetes probably depends as much on the patient as the doctor. The physician can prescribe for the diabetic but only the patient, or some constant companion, can see that these regulations are carried out, and only through knowledge of the disease can the patient ever hope to regulate and discipline himself

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to the best advantage for himself. It is for this purpose—the purpose of educating the layman who has diabetes—that this diabetic manual for patients is written.

The author goes into the nature of diabetes and its relation to infections, overeating, obesity, and inheritance. He lays particular stress on the point that while the disease is incurable, it is compatible with long life if the proper treatment is carried out. Emphasis is placed on rules to be observed by those who have to take insulin. The book also contains a well-written chapter on diabetic arithmetic. The complications of diabetes and their prevention are fully covered. Many recipes, food tables, and diagrams are included, thes being the chief manner in which this edition varies from the first.

Probably it will be stretching the truth to say that placing a diabetic manual in the hands of a diabetic and having him understand it is as important a part of the treatment as insulin, yet when we realize that the duration of the lives of many diabetics is in direct proportion to their knowledge of the disease, then it is doubtful if this statement is so far from the truth. At any rate the education of the diabetic is of primary importance. "Diabetic Manual for Patients" by Dr. Henry J. John is certainly as good as any book written with this purpose in view.

HARRY WARTHEN.

Spinal Anesthesia. Technic and Clinical Application. By GEORGE RUDOLPH VEHRS, M. D., Salem, Oregon. St. Louis. The C. V. Mosby Company. 1934. Octavo of 269 pages. Illustrated. Cloth. Price, $5.50.

During the past few years spinal anesthesia has achieved a remarkable degree of popularity and is being used by a large number of surgeons of varying degrees of ability, training, and experience. A demand has therefore developed for a book correlating the various phases of spinal anesthesia and giving in considerable detail the technic of its use. This book seems in large measure to meet this demand.

After a brief review of the history of the development of spinal anesthesia, there is a discussion of the relationship between the anatomy of the central nervous system and the various methods of inducing spinal anesthesia. The action of novocaine upon the various types of nerve fibers is discussed in considerable detail and the relationship between this and the various methods of production of spinal anesthesia is pointed out. The possible effects of spinal anesthesia on the cardiac and respiratory mechanisms are fully discussed, and the general indications and contra-indications for its use are considered. The technic of application of the various methods is clearly described and the advantages of the author's technic given.

There is considerable repetition and at times the author becomes over-enthusiastic, particularly in the discussion of the indications and contra-indications, but on the whole the book is well written and is recommended to any one interested in the use of spinal anesthesia.

I. A. BIGGER.

Library Books Available to Members.

The following are late additions to the Library, Medical College of Virginia. As with other volumes, these will be loaned members of the Medical Society of Virginia, the only cost being return postage:

Bye, R. T.—Principles of economics.
Carlisle, G. L.—Practical talks on heart disease.
Craig, C. F.—Amebiasis and amebic dysentery.
Daukes, S. H.—Medical museum.
Decade of Progress in Eugenics—3rd International Congress of Eugenics.
Deerforth, D.—Knockwood.
Elgood, C.—Medicine in Persia (Clio Medica No. XIV).
Ewing, A. W. G.—Aphasia in Children.
Fraser, F. R.—Principles of Therapeutics.
Greenman & Duhring—Breeding and Care of the Albino Rat.
Harmer—Principles and Practice of Nursing, 3rd ed.
Heilbron, I. M.—Dictionary of Organic Compounds, v. 1.
Hertzler—Surgical Pathology of the Female Genital Tract.
Hines, G.—Alfalfa Bill.
Kitchens—Definite Diagnosis in General Practice.
Maule, F.—She Strives to Conquer.
Melvin, G.—Building Personality.
Morgan—Keeping a Sound Mind.
Philadelphia Child Health Society—A Nutrition Program and Teaching Outline.
Reynolds, F. N.—Relief of Pain in Childbirth.
Richmond—Introduction to Sex Hygiene.
Stevens, A. A.—A Manual of the Practice of Medicine, 13th ed.
Transactions of the American Association for the Study of Goiter (1934).
Tucker, B. R.—The Lost Lenore.

Virginia Medical Monthly

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Editorial

Medical Signers.

Benjamin Rush, Physician and Citizen by Nathan G. Goodman purports to be the first extended biography of this remarkable Revolutionary physician from Pennsylvania. In the first paragraph of the preface we are told that "After examining countless letters, documents, and newspapers in evolving this full-length portrait of the only Doctor of Medicine to sign the Declaration of Independence I found that there emerged a man vigorous in mind and body, and heroic in stature."

It may be a small point, but in the interests of historical accuracy and in justice to the medical professsion which played no inconspicuous part in the struggle for American independence, attention should be called to the fact that five physicians, not one, signed the Declaration of Independence.

It is to be supposed that the medical profession of Georgia will want to remind Mr. Goodman of the fact that Lyman Hall (1731-1790) was a physician of that state and a Signer of the Declaration of Independence. He had graduated from Yale, studied medicine as an apprentice, and was a country practitioner before his election to the Continental Congress. After the war he returned to the practice of medicine in Georgia, and except for the interruptions occasioned by the confiscation of his property by the British and his election as Governor in 1783, continued in his chosen profession until his death in 1790.

It will no doubt occur to the medical profession of Connecticut that Oliver Wolcott (1726-1797), a Signer of the Declaration of Independence, Major-General in the state militia, member of the Continental Congress, and later Governor of the state, was also a physician, having after his graduation from Yale in 1747, studied medicine with his brother, Alexander.

New Hampshire has the most right to object to Mr. Goodman's incomplete information, because of the three Signers of the Declaration from that state, two were physicians. Josiah Bartlett (1729-1795) practiced medicine at Kingston, N. H., where in 1754 he gained some reputation by his novel treatment of "the throat distemper." In 1775 he was elected to the Continental Congress and signed the Declaration of Independence. Subsequently he became Chief Justice of the state and New Hampshire's first Governor. His interest in medicine

continued however, and in 1791 he was one of the founders of the New Hampshire Medical Society, being made its first president. Matthew Thornton (1714-1803), the other Signer from New Hampshire, after studying medicine, settled in Londonderry, and was a regimental surgeon in the expedition against Louisburg. He was elected to the Continental Congress in 1776, was later raised to the Supreme Bench of the state and ended his political career as a member of the state senate.

The Birth Control Ballot.

With this issue of the VIRGINIA MEDICAL MONTHLY a ballot on birth control is being placed in the hands of every member of the Medical Society of Virginia with the expectation that it will be filled out promptly and returned to the office of the MONTHLY where the results will be tabulated and subsequently published.

The subject is most important and is attracting widespread attention. The recent organization of the Virginia Birth Control League, initiated and sponsored by a group of prominent laymen, is a challenge to the medical profession of the state, the majority of which has up to the present time been content to stand upon the side lines and watch, more or less skeptically, the progress of a movement in which by temperament and training they have every right to take the leading rôle.

Assuming that the medical profession of Virginia can no longer fail to recognize the legitimacy of the claims of this movement upon their time and thought, the VIRGINIA MEDICAL MONTHLY has decided to conduct this poll. By such means as this it is believed possible to correct the extremes of thought which are usually vocal enough, but not necessarily representative of mass opinion, the trend of which is after all the only important issue. It is the hope of the MONTHLY that every recipient of a ballot will vote.

A Symposium on Medical Economics.

This issue of the VIRGINIA MEDICAL MONTHLY carries the papers read before the recent meeting of the Medical Society of Virginia at Alexandria on various features of our present economic problems. They are clear, temperate and exhaustive discussions of the subject, presented by members of the Virginia profession competent to speak, as well as by a distinguished guest. The MONTHLY is glad to publish these papers at this particular time because there is every evidence to show that the Washington administration is now seriously approaching the question of what is to be done on a large scale about the medical care of the American people. We all await with interest the report of the Committee on Economic Security, especially its medical aspects, and the action that is going to be taken on it by the next Congress.

It is of more than passing interest that one of the chief advisers to Miss Perkins and her Committee on Economic Security is Mr. Edgar Sydenstricker, Director of the Milbank Memorial Fund, a Virginian and the Society's recent guest speaker. Mr. Sydenstricker is not a radical. He believes in individualism. In a recent statement correcting a false impression of his position published in the newspapers, he refers to a conversation with a reporter in which, he said, "I impressed upon him with all the words at my command that I was *not* an advocate of state or socialized medicine."

Dr. Robert L. Payne.

The habit of electing Virginians to head sectional as well as national societies continues. In choosing Dr. Robert L. Payne, of Norfolk, as its next president the Southern Surgical Association has recognized the merits of one who has long been regraded in Virginia as a man of outstanding surgical attainment. The medical profession of his State extends the hand of congratulation to him.

Why Laymanize the Hospital?

Those sensing danger from the socialization of medicine will be interested in the following extract from the pen of Dr. J. K. Hall, which appears in the December, 1934, issue of *Southern Medicine and Surgery*:

Direct and dignified inquiry made of the head of the United States Veterans Bureau in Washington about heading the new United States Veterans Hospital near Roanoke by a layman is said to be unanswered at the present moment. And here in Richmond there are reports that the office of the United States Veterans Bureau in Richmond is to be transferred to that new United States Veterans Hospital located out in the country some distance from Roanoke. It is rumored also that the Chief Officer of the Veterans Bureau in Richmond is to become the head or the General Manager of that new Veterans Hospital near Roanoke. But it is said to be impossible to obtain authentic and decisive information about these matters. And it has been rumored also that

the Congressman from the Roanoke district, whose influence was potent in bringing the hospital at Roanoke into being, will have a hand in selecting or designating the entire personnel of the new institution near Roanoke.

The physicians of Virginia have every right to feel deep concern about the quality of the service to be rendered by that hospital out from Roanoke. It is to be presumed that in the beginning at least of its activities most of its patients will be Virginians—the former patients of Virginia physicians. This is not only the right but it is the duty as well of the physicians of Virginia to concern themselves about the set-up of the new Veterans Hospital.

Why should a layman—any layman—ignorant of hospital management and untrained in medicine and in nursing, be placed at the head of an institution the function of which is to be the care of sick folks? Should not the authorities be prodded and harassed until that question be answered? Why should the office of the United States Veterans Bureau, for many years located in Richmond, the easily accessible capital of the state, be transferred to the country in Roanoke County, in a remote and relatively inaccessible region of the state? Has the world Facility been added to the three words: United States Veterans, in order that a layman politician, ignorant of medicine and sickness and of many other things, may be placed at the headship of a hospital? Why does not the government speak of Post Office Facilities; of Treasury Facilities; of Army Facilities; of Supreme Court Facilities; of Alcoholic Facilities; of Senatorial Facilities? And if it be wise and expedient and Economic to head a United States Veterans Hospital by a layman, even by a layman who may have been so steadily promoted that he may be now almost a Brigadier General, why is not a layman placed at the head of Saint Elizabeth's Hospital in Washington City? That is not only the largest hospital maintained by the United States Government; it is probably the largest hospital in the United States. If laymanization of United States Government hospitals is to take place, why not begin the plan right there in Washington City? And if such hospitals are to become Facilities why not apply that verbalization with all of its implications to Saint Elizabeth's, and place Dr. William Alanson White, the Superintendent, and all of the medical and nursing staff under the suzerainty of some politicalized layman? And if it be best for all reasons for the offices of the United States Veterans Bureau to be located in a United States Veterans Hospital then why not exhibit a fine example of that wisdom by transferring the headquarters of the United States Veterans Bureau from wherever it is in Washington City out to Saint Elizabeth's Hospital on the fringes of that city, but not so remotely in the country as the new hospital in Roanoke County in Virginia? And why should citizens be denied information about these matters? Are they to be prevented from having a voice in the doings of their own government even in their own state and with their own people?

The people in a democracy are, or should be, the government. From their pockets in the form of taxes come that substance which sustains and makes possible the continued biologic and political existence even of such high dignitaries as now exercise sway and dominion over the affairs of veterans and veterans hospitals. Veterans hospitals and veterans bureaus are neither built nor sustained by government money. There is no such thing. It is as non-existent as reptiles in Ireland. The people, with their own money, make possible all these agencies that function under government episcopacy. Why should the members of the medical profession and other citizens of Virginia and of the United States stoop so low as to approach on their knees these Federal functionaries in an effort to find out what is going to happen here in Richmond and up yonder in Roanoke County? I dislike to think of a physician as a suppliant. Physicians should speak and not beseech. And since the money of the people is supplying all paraphernalie of the drama—both actors and equipment—why should not the people insist upon knowing whether a rabbit or a guinea pig is to be fetched forth from the hat, and when, and why, and by whom, and what for? If we can not find out these things we shall have to conclude that Bureaucracy has at last got down to its knitting here in the ancient Commonwealth of the late P. Henry and T. Jefferson.

Department of Clinical and Medical Education of the Medical Society of Virginia

Lecture Notes by Dr. Lapham Still Available.

The Executive Secretary still has on hand a number of sets of the mimeographed lecture notes of Dr. M. E. Lapham on the subject of Prenatal and Postnatal Care. Sets of these notes will be sent free upon request to members of the Society as long as there is a supply on hand. We regret that the requests for the lecture notes on Pediatrics by Dr. G. M. Lyon have completely exhausted the supply.

Meeting of the Committee on Clinical and Medical Education.

The Committee on Clinical and Medical Education met in the Society's offices in Richmond on the afternoon of November 26th. All members of the committee were present, including Drs. R. D. Bates, chairman; P. W. Miles, I. C. Riggin, G. F. Simpson, Lee E. Sutton and J. C. Flippin. The purpose of the meeting was to consider plans for carrying forward the Society's program in the field of postgraduate medical education

At the request of the chairman, the secretary gave a brief report on finances. This indicated a balance of $547.55 from the discontinued Committee on Prenatal and Postnatal Instruction, which sum, with the approval of the Commonwealth Fund, through whose help the work of the Committee on Prenatal and Postnatal Instruction had been financed, was authorized to be turned over to the Committee on Clinical and Medical Education; also, an estimate of $150 from the sale of the manikin and other supplies which became the property of the committee; and $250 appropriated by the Medical Society at its last annual meeting for carrying on its educational program—a total of $947.55.

Before discussing the question of procedure, Dr. Simpson reported most favorably on the results of the two-weeks clinic in Pediatrics, conducted in Leesburg during the late summer by Dr. George M. Lyon, of Huntington, W. Va. Dr. Simpson called attention to the apparent success of the general meeting with the public when Dr. Lyon discussed the purposes of the two-weeks clinic and the general features of the educational program that the physicians are carrying forward throughout the State. He suggested that if other courses are sponsored, steps should be taken to invite all the physicians in the teritory served to the first meeting. He recommended that sufficient time be allowed to plan carefully and thoroughly for the clinics. He emphasized the importance of selecting a clinician with practical experience.

At the request of the chairman, the secretary read the proposed program for procedure. This included at least two sectional two-weeks clinics in Pediatrics, two reading courses, cooperation with the Department of Medicine of the University of Virginia and the Medical College of Virginia in arranging and announcing their postgraduate clinics.

PEDIATRICS CLINICS PLANNED

There was universal agreement that at least two clinics similar in character to that conducted by Dr. Lyon in Leesburg should be conducted in the subject of Pediatrics. A committee, consisting of Drs. Flippin and Sutton, was appointed by the chairman to cooperate with the Executive Secretary in selecting the clinicians. The committee voted to increase the fee for membership in the clinics from the original fee of $5 to $7.50. By this step it was hoped that funds received from fees would make it possible to conduct a third clinic in the course of the year.

The question of the communities in which the clinics might be conducted was discussed. Although it was decided that the final selections would have to be based on such factors as local interest, enrollment, etc., special attention was directed to the communities of South Boston, Petersburg, Suffolk-Franklin and Newports News in Southside Virginia; Christiansburg, Abingdon and Staunton in Western Virginia and Tappahannock in Northern Virginia. The committee felt that any community interest should be considered. However, it advised holding the first clinic which is planned for the month of February in Southside or Eastern Virginia, where weather conditions may be more favorable for a clinic at this season of the year.

DIRECTED READING COURSES

The proposal to experiment with Directed Reading Courses received much attention. It was explained that the reading courses would be reading outlines, based on very pertinent literature which could be secured in inexpensive form on subjects in which the practicing physician might, for various reasons, be particularly interested. The idea of Directed Reading Courses was raised because the method is being adopted, apparently with considerable success, in other fields. After due consideration, the committee authorized the secretary to go forward with the preparation of two such courses. The subjects which it recommended for treatment were Obstetrics and Pediatrics. It urged that if possible Dr. Lapham's cooperation be obtained in preparing the reading course in Obstetrics and that

of Dr. Lyon in preparing the reading course in Pediatrics. The committee requested the secretary to prepare announcements explaining the general character of the reading courses and their purposes and to take opportunities to bring this experimental project to the attention of members of the society.

GEO. B. ZEHMER,
Executive Secretary.

Proceedings of Societies

Richmond Academy of Medicine.

Following its scientific session on November 27th, Dr. J. F. Geisinger, President, presiding, the Academy honored four of its members who at this time hold presidencies in national medical societies: Dr. Robert C. Bryan in the American Association of Genito-Urinary Surgeons; Dr. Fred M. Hodges in the American Roentgen Ray Society; Dr. J. Shelton Horsley in the American Association for the Study of Neoplastic Diseases; and Dr. M. Pierce Rucker in the American Association of Obstetricians, Gynecologists and Abdominal Surgeons. Dr. Stuart McGuire, himself the recipient of many national honors, extended greetings, congratulations and best wishes from the Academy. A brief response was made by each of the honorees. These exercises were followed by an informal reception and supper in the dining room of the Academy building.

At the annual meeting of the Academy on December 11th, the following officers were elected for the ensuing year: President, Dr. Frederick P. Fletcher, and vice-presidents, Drs. Austin I. Dodson and T. Dewey Davis. These officers will be installed at the meeting of this organization on January 8th. Mrs. Ralph Catterall is executive secretary of the Academy.

Roanoke Academy of Medicine.

On November 19th the first hospital meeting of the Academy was held at the Jefferson Hospital. Resolutions were presented and adopted on the death of Dr. Dexter P. Cannaday. The following program was presented:

Hydrocephalus from the Obstetrician's Viewpoint—Dr. George S. Hurt.

Common Intraocular Changes—Drs. Mortimer Williams and Wm. Fisher.

Bacterial Endocarditis—Drs. Geo. B. Lawson and White Burgess.

Management of Advanced Malignancies—Drs. Hugh H. Trout, A. P. Jones, J. G. Rennie.

Electrocardiography (Moving Picture) — Drs. John E. Gardner and L. C. Spengler.

Following the program light refreshments were served.

On December 3rd the third regular meeting of the Academy was held at the Elks Club.

Dr. J. L. Kinzie, Salem, Va., was elected to membership in the Academy.

The following scientific program was presented:

A New Method of Treating Fractures of the Leg—Dr. M. A. Johnson.

Pericardial Accumulations—Dr. J. D. Willis. Discussed by Dr. C. H. Bondurant.

Report of a Case—Dr E. G. Gill.

The next meeting of the Academy will be in January.

Dr. W. P. Jackson and Dr. Frank Helvestine, both of Roanoke, are president and secretary-treasurer, respectively.

The Southside Virginia Medical Association

Convened in Petersburg, Va., on the afternoon of December 11th. The meeting was called to order by Dr. H. C. Jones, of Petersburg, President, and opened with prayer by Dr. R. L. Raiford.

Dr. C. S. Dodd, of Petersburg, reported a very interesting case on Tracheal Diphtheria, and Dr. D. D. Willcox, also of Petersburg, reported a very unusual case of Astigmatic Refractive Error. Dr. Morton Morris Pinckney, of Richmond, read a paper on Hormones. Dr. Meade Edmunds, of Petersburg, presented a paper on Pulmonary Abscess Following Tonsillectomy, and Dr. W. G. Crutchfield, of Richmond, read a paper on Acute Head Injuries. Dr. A. M. Wash, Richmond dentist, read a paper on Dental Conditions of Interest to Physicians. Quite a number of dentists from South-

XUM

side Virginia were present to hear this. There was a free discussion of all papers.

The following officers for 1935 were elected: President, Dr. S. E. Gunn, Hopewell; vice-presidents, Dr. Linwood Farley, Courtland; Dr. Moses H. Tredway, Emporia; Dr. Meade Edmunds, Petersburg, and Dr. Edward Joyner, Suffolk; secretary-treasurer, Dr. R. L. Raiford (re-elected) Franklin.

Dr. Lawrence P. Jones, of Emporia, was elected an active member.

After a delightful dinner the association adjourned to hold its next meeting on the second Tuesday in March, 1935.

The Eastern Shore of Virginia Physicians' Journal Club

Held its regular meeting in the Drummondtown Tavern, Accomac C. H., Va., November 13th. Those present were:

Dr. J. Fred Edmonds, President, Dr. John W. Robertson, secretary, and Drs. J. L. Decormis, W. Carey Henderson, W. W. Kerns, Harry Denoon, Ira Hurst, J. C. Doughty, W. T. Green, W. J. Sturgis, Rooker J. White, J. R. Hamilton and Mr. A. A. Shanks. The following dentists were present as visitors: Drs. C. F. Turman, Warner Lewis and Dixie Lilliston.

Dr. William J. Sturgis, Nassawadox, read a very interesting and comprehensive paper on the "Early Treatment of Syphilis." The discussion was led by Dr. Ira Hurst, of Parksley. Mr. A. A. Shanks discussed this from the laboratory standpoint.

Dr. John W. Robertson, Onancock, read a paper on "Fractures of the Forearm," illustrated by numerous X-ray plates. Discussion was led by Dr. Harry Denoon, of Nassawadox.

The program for the meeting held on the second Tuesday in December at the Nassawadox Hospital was as follows:

"Dislocations of the Shoulder Joint" by Dr. Griffin Holland, Eastville, with discussion led by Dr. W. Carey Henderson, of Nassawadox, and a paper on "Pneumonia" by Dr. W. W. Kerns, Bloxom. Discussion on this led by Dr. J. R. Hamilton, of Nassawadox.

The Physicians' Journal Club is doing a fine work in bringing the physicians of the Eastern Shore into closer contact. Much interest has been added to the meetings by having the dentists meet with the Society.

News Notes

We wish to extend our best wishes for a Prosperous and Happy New Year to all our readers.

The Seaboard Medical Association of Virginia and North Carolina

Met in Kinston, N. C., December 4th-6th, with a large attendance and the association had one of the best meetings in its thirty-nine years of existence. The opening session was a public meeting at which Dr. C. C. Carpenter, of Wake Forest, spoke, with the aid of lantern slides, on what the public should know about cancer. At this session His Excellency, John C. B. Ehringhaus, Governor of North Carolina, gave an address on "A Layman's Tribute to the Physician." Some of the features were a study of the use of living sutures by Dr. James C. Masson, of the Mayo Clinic, and also Dr. R. L. Payne, Norfolk. This subject was illustrated by lantern slides and a movie film. One entire forenoon was given over to a symposium on Kidney Disease, this being led by Dr. C. C. Carpenter, of Wake Forest, and closed by Dr. Manfred Call, of Richmond, invited guests. There were also five others on the symposium.

The admission of members this year was more than triple the average. The true "Old Southern Hospitality" was lived to the letter by the people of Kinston.

Officers elected for the coming year are: President, Dr. A. M. Burfoot, Fentress, Va.; vice-presidents, Dr. Thomas L. Lee, Kinston, N. C.; Dr. Otis T. Amory, Newport News, Va.. Dr. Thomas M. Watson, Greenville, N. C.; and Dr. John R.

Hamilton, Nassawadox, Va.; treasurer, Dr. Fred C. Rinker, Norfolk, Va.; and secretary, Dr. Clarence Porter Jones (re-elected), Newport News, Va.

It was voted to hold the 1935 meeting, December 3-5, 1935, at the Chamberlin Hotel, Old Point, Va.

Health Service in Virginia to be Expanded.

An expansion of health activities in Virginia is contemplated in view of the announcement form Washington that this State is to receive an allotment from Federal funds for the proposed establishment of fifteen new county health units. This allotment, which is expected to be about $60,000, is made from money provided by the FERA for rural health projects under the U. S. Public Health Service. It is understood that the State and the localities aided are to "match" the Federal aid.

Medical College of Virginia News Notes.

Dr. Iva Miller, Vice-President of the Medical Woman's National Association, gave an illustrated lecture on December 5th to the women students of the college. Dr. Miller has done extensive medical and public health work both in China and the United States.

The Norfolk alumni held their annual dinner on November 26th, at which new officers were elected. Dr. L. E. Jarrett, secretary of the alumni association, Dr. W. T. Sanger, Mr. J. R. McCauley, and Dean Wortley F. Rudd attended the meeting.

Dr. Joseph Mountin, United States Public Health Service, Washington, D. C., was a visitor here on December 13th. Dr. Mountin was in Richmond in the interest of the survey being made by the Richmond Council of Social Agencies of all social, medical, and public health services.

Dr. Rolland J. Main has been granted a leave of absence effective February 1st, to do research work at the University of Chicago on the study of Alveolar Carbon Dioxide in Man.

The new central heating plant for the college, which is to be financed by a loan and grant from the Federal government, is expected to be under way within two months and be completed by the beginning of the next heating session.

The regular scientific monthly meeting of the staff was held December 13th. Dr. Frank L. Apperly described "An Instrument for Rapidly Measuring the Average Diameter of Red Corpuscles in Anemias." Dr. N. G. Patterson lectured on "Medical Work in China" and Dr. Kinloch Nelson discussed female sex hormones.

Founders' Day was celebrated on December 3rd. Dr. S. C. Mitchell, professor of history and political science, University of Richmond, gave an interesting talk on The Past and Future of the Medical College of Virginia.

News from University of Virginia, Department of Medicine.

On November 8th Dr. Bruce Morton spoke before the Cabell County Medical Society, meeting in Huntington, W. Va., on the subject of Hyperparathyroidism.

The Josiah Macy, Jr. Foundation has contributed the sum of $500.000 to the School of Biochemistry for research on cholesterol under the supervision of Dr. Alfred Chanutin.

Dr. Oscar Swineford spoke on the subject of Food Allergy at the semi-annual meeting of the State Dietitians Association in Norfolk on November 9th.

At the meeting of the University Medical Society on November 19th Dr. H. E. Jordon spoke on The Significance of the Lymphoid Nodule; Dr. R. V. Funsten gave an account of his recent visit to the Locke Clinic in Williamsburg, Ontario.

Forty-eight physicians attended the Postgraduate Clinic held at the University Hospital on November 16th.

Dr. John H. Neff and Dr. Edwin P. Lehman attended the meetings of the Southern Surgical Association at Sea Island, Ga., from December 11th to 13th. Dr. Lehman presented a paper on Spinal Extradural Cysts.

On December 5th to 8th a Postgraduate Course in Ophthalmology and Otolaryngology, sponsored by the University of Virginia at the request of the Virginia Society of Otolaryngology and Ophthal-

XUM

mology, was given at the Medical School. Lectures were given by Drs. E. Ross Faulkner, John R. Page, E. B. Burchell, John H. Wheeler, Conrad Berens, Bernard Samuels and John H. Dunnington, of New York City; Dr. George M. Coates, of the University of Pennsylvania; and Drs. H. S. Hedges, Fletcher D. Woodward, Edwin Burton, Vincent W. Archer and Oscar Swineford, of the University of Virginia. Thirty-two physicians registered for the course.

At the meeting on December 6th, Dr. John R. Page, Surgeon Director of the Manhattan Eye, Ear and Throat Hospital, New York City, addressed the University Medical Society on Remarks on the Significance and Prevalence of the different Middle Ear and Mastoid Infections.

News from the New York Polyclinic Medical School and Hospital.

At the meeting of the Clinical Society of the New York Polyclinic Medical School and Hospital, New York City, held on December 3, 1934, Dr. Charles L. Scudder, of Boston, Mass., read a paper on "Trends of the Treatment of Fractures."

At the meeting of the Clinical Society of the New York Polyclinic Medical School and Hospital to be held on January 7, 1935, the guest speaker will be Elliott Cutler, M. D., Harvard University, who will deliver a paper on "Treatment of Heart Disease by Total Thyroidectomy."

Dr. Pol. N. Coryllos will give a special afternoon lecture on Surgical Treatment of Pulmonary Tuberculosis on Saturday, January 12, 1935 at 3:30 P. M.

Dr. Russell L. Cecil will give a special afternoon lecture on Foreign Protein Therapy on Wednesday, February 6, 1935 at 2:30 P. M.

Assistant Director of Rural Health and T. B. Work in Virginia.

Dr. William D. Tillson, recently engaged in public health work in Baltimore County, Maryland, has been appointed assistant director of rural health and tuberculosis out-patient service of the Virginia State Health Department, and entered upon his new duties on December 1st. He will serve under Dr. E. L. McQuade, director of the rural health service.

Dr. Tillson is an alumnus of the University of Virginia, Department of Medicine, class of '19, and practiced for a time in Isle of Wight County, Virginia. Before going to Maryland he was chief of the Tuberculosis Division of the Ohio State Health Department. His present appointment was necessitated by additional work placed on the State Health Department on account of the depression and was made possible by outside funds contributed to the Health Department.

Dr. William B. Meares, Jr.

Formerly of Richmond, Va., where he practiced for some time, has located in Lexington, N. C. He is opening offices the first of this month and will specialize in proctology.

Dr. Hunter H. McGuire,

Winchester, Va., has been named by Governor Peery as a member of the board of visitors of the Medical College of Virginia to succeed the late Col. John W. Williams.

Association of Seaboard Airline Railway Surgeons.

At the meeting of this Association in Miami, Fla., early in December, Dr. Robert C. Woodward of that city was elected president for the coming year, succeeding Dr. Henry E. Palmer, of Tallahasse, Fla. Dr. Hunter M. Sweaney, Durham, N. C., Dr. Stewart R. Roberts, Atlanta, Ga., and Dr. Curtis E. Crosby, Greenwood, S. C., were elected vice-presidents. Richmond, Va., was selected as the 1935 place of meeting, the dates to be set by the executive committee.

Dr. Joseph D. Collins, Portsmouth, Va., chief surgeon of the Seaboard, was toastmaster at the annual banquet, at which Senator Royal S. Copeland, of New York, was the principal speaker.

Dr. N. P. Fitts

Recently located at Maurertown, Va., where he is engaged in the general practice of medicine. He is a member of the class of '29, Medical College of Virginia and interned at Memorial Hospital, Richmond, Va. He was later on the staff of the Eastern State Hospital, Williamsburg, Va., for three years.

Dr. N. Thos. Ennett,

Formerly of Richmond, Va., but recently connected with the Surry County, North Carolina, Department of Health, with offices at Mt. Airy, N. C.,

has accepted the position as health officer of Pitt County, North Carolina, which is a larger field, carrying a seven piece unit. He entered upon his new work on December 15th.

Dr. John E. Vaughan,

Of the class of '33, University of Virginia, who interned last year at the St. Francis Hospital, Charleston, W. Va., has gone to California, where he is connected with the Kern General Hospital, at Bakersfield.

Dr. Brenton A. Tilghman,

Richmond, Va., is spending some time at Saranac Lake, N. Y., but expects to resume his practice in Richmond in May or June.

Southern Surgical Association.

Dr. R. L. Payne, Norfolk, Va., was elected president of the Southern Surgical Association at its recent meeting at Sea Island, Ga. He succeeds Dr. Frank K. Boland, of Atlanta. Dr. Payne had previously been secretary for nine years. As the Association has a limited membership of 200, there were only six new members elected to replace those who had died or resigned. Dr. C. Bruce Morton, University, Va., was the only Virginia doctor admitted. The next meeting of the Association will be held at Hot Springs, Va., in 1935.

Dr. Elizabeth B. Sherman

Has located in Front Royal, Va., where she will be engaged in general practice. She is a graduate of the class of '26, University of Maryland, School of Medicine, and served three years' internship at the University and Franklin Square Hospitals in Baltimore. Dr. Sherman also took fifteen months' special training in pediatrics at the Bellevue Hospital and Seaview Tuberculosis Hospital in New York and has for the past three years been practicing pediatrics in Baltimore.

Southern Medical Association.

The meeting of this Association in San Antonio the middle of November was a most excellent one in every way and had a total registration of 2,852, of whom 1,945 were physicians. The total registration from Virginia was only thirty-seven, several of whom went on the post-convention trip to Mexico.

Dr. H. Marshall Taylor, Jacksonville, Fla., was elected president for the ensuing year, and Drs. J. Manning Venable, San Antonio, and S. O. Black, Spartanburg, S. C., vice-presidents. St. Louis, Mo., was selected as the 1935 place of meeting.

Dr. J. E. K. Flannagan,

Class of '25, University of Virginia, formerly Medical Director of Mt. Regis Sanatorium, Salem, Va., is now with the Tuberculosis Control Department of the Alabama State Board of Health, located at Montgomery, Ala.

Dr. Maxwell E. Lapham,

Who so efficiently conducted the courses in Prenatal and Postnatal Care in Virginia for a little over two years, under the auspices of the Medical Society of Virginia, is now in Mississippi where he is engaged in a similar work. As in Virginia, the Mississippi State Medical Association has the cooperation of its State Health Board and the Tulane University of Louisiana School of Medicine, with financial assistance from the Commonwealth Fund.

Dr. Carl V. Reynolds,

Asheville, N. C., has been appointed acting state health officer of North Carolina, to succeed Dr. James M. Parrott who died in November. Dr. Reynolds was health officer of Asheville for a number of years and was president of the North Carolina State Board of Health until this appointment.

Dr. Sylvester D. Craig, of Winston-Salem, has succeeded Dr. Reynolds as president of the Board.

Acting Health Officer for Albermarle-Charlottesville.

Dr. Robert A. G. Jones, young practicing physician of Norfolk, Va., has been appointed acting health officer for the Albemarle-Charlottesville Joint Health Department until the arrival of the permanent health officer about April 1st, next. He is relieving Dr. Kenneth Maxcy who has been filling this position since the resignation of Dr. E. L. McQuade on August 1st. Dr. Jones is a graduate of the University of Virginia in the class of '33 and later interned at the Delaware Hospital, Wilmington.

Dr. Charles Lewis Baird,

Captain U. S. Army, M. C., recently stationed at Ft. Benning, Ga., sailed early in December for Hawaii, where he will be stationed for two years. He was accompanied by Mrs. Baird and their young son.

XUM

Dr. and Mrs. Zenas B. Noon,

Nogales, Arizona, are receiving the congratulations of their friends upon the arrival of twin sons. Dr. Noon is a member of the class of '30, Medical College of Virginia.

Dr. A. K. Turner,

Of the class of '33, University of Virginia, Department of Medicine, recently located in Martinsville, Va., for the practice of his profession. His internship was served at the Long Island Hospital, Boston, Mass.

Dr. Leo E. Hayes,

Recently of Covington, Va., is now at the New York Postgraduate Medical School and Hospital for the study of dermatology and syphilology, with a view of specializing in these subjects.

Dr. Karl Blackwell,

Richmond, Va., was elected president of the Parents' League of Richmond, at its annual meeting on December 12th. He succeeds Dr. Carrington Williams in this office.

Dr. L. Nelson Bell,

A member of the Medical Society of Virginia, located at Tsing-kiangpu, Ku., China, was among the Virginia doctors on whom a fellowship in the American College of Surgeons was conferred at the recent Clinical Congress in Boston.

Dr. Bell took his pre-medical work at Washington and Lee University and received his M. D. degree from the Medical College of Virginia in 1916. During his senior year he was an undergraduate interne at the Memorial Hospital. He went to China in the fall of 1916 and since that time has been connected with the Tsing-kiangpu General Hospital of the Presbyterian Mission, specializing in general surgery.

In 1922-23 he received a fellowship from the Rockefeller Foundation for postgraduate work and spent a year in this country doing this special work. He did additional work in this country during part of 1927-28 and is due in America on furlough again during the summer of 1935.

Dr. A. I. Dodson,

Richmond, Va., was among those attending the Southeastern Branch Society of the American Urological Association which met December 7th and 8th at Atlanta, Ga.

For Sale—

Office (4 rooms), instruments and library of doctor in town of twenty-five hundred inhabitants. Good surrounding country and good roads. Retiring from practice on account of age. Address "No. 458" care this journal. (*Adv.*)

Obituary Record

Dr. Benjamin May Baker

Was born in Petersburg, Va., on August 8, 1865, and died in Norfolk, Va., on November 16, 1934. His education was received at the University of Virginia, and at the College of Physicians and Surgeons of New York.

Locating in Norfolk for the purpose of practicing his profession, he early demonstrated that cheerful, unselfish, painstaking devotion to his work that constituted the outstanding characteristic of his career.

Notwithstanding an enviable reputation as a skillful surgeon, Dr. Baker did not abandon the practice of general medicine. In this he was unique. As long as he was physically able to do so he cheerfully responded whenever and wherever he was called. There was about him always an air of alertness which, with his engaging smile and sweet disposition, made it pleasant to be associated with him.

Already, in the community he so efficiently served for a long period of time, he is sorely missed. His most appropriate memorial is that found in the hearts of the many who knew him as their friend.

He was a member of the local and State Medical Societies and of the American Medical Association, and to the end of his career maintained an active interest in the welfare of his profession.

Announcement of Dr. Baker's death is received by the Norfolk County Medical Society with deep sorrow, and it therefore resolves:

1st. That the Society and the whole community has lost a valuable and lovable friend.

2nd. That the Society joins his bereaved family in their sorrow at his passing.

3rd. That this record be included in the minutes of the Society, a copy sent to Dr. Baker's family, and one also to the VIRGINIA MEDICAL MONTHLY.

LOMAX GWATHMEY,
A. BROWNLEY HODGES,
N. G. WILSON.

Dr. James William Henson,

Prominent surgeon of Richmond, Va., died on November 28th, after an illness of several weeks. He had been a member of the Medical Society of Virginia for forty-four years and was a fellow of the American College of Surgeons and various other medical and surgical organizations. He is survived by his wife who was a daughter of the late Dr. W. W. Parker of this city, a son, Dr. Clifton Henson, of New York City, and one daughter.

The following appreciation and resolutions were adopted by the Richmond Academy of Medicine:

Dr. James W. Henson was born on October 3, 1863, at Scottsville, Va., a representative of distinguished families established in Virginia more than two centuries ago. He was a son of the late William Henry Henson, who served with distinction in the Confederate Calvary and Marie Antoinette Hoge Henson. Dr. Henson spent his early life in Louisa County, Virginia, and began his studies at the Green Springs Academy of Louisa and was later a pupil in the Hoover Select Military Academy located at Staunton, after which he enrolled at Richmond College. Upon completion of his work there he taught school for a short time.

In the fall of 1886 Dr. Henson entered the Medical College of Virginia, and was graduated from that institution in the spring of 1889 with the degree of M. D. Immediately upon graduation, he served as an interne at the City Home in Richmond, and at the expiration of that period began the active practice of his profession in Richmond.

Dr. Henson was a profound student and a forceful teacher, and for many years taught at both the University College of Medicine and the Medical College of Virginia. From 1894-95 he was demonstrator of anatomy at the University College of Medicine; in 1895 he was elected professor of anatomy which chair he held until 1899; from 1899 to 1903 he continued as professor of anatomy and was also demonstrator of orthopedic surgery. From 1903-1904 he served both as professor of anatomy and genito-urinary surgery. From 1904 to 1910 he was professor of surgical anatomy and lecturer on principles of surgery, and from 1910 to 1913 was professor of principles of surgery. Upon the consolidation of the University College of Medicine with the Medical College of Virginia in 1913, he was appointed associate professor of surgery and served in this capacity until 1922.

Dr. Henson was at various times devoted to many charitable organizations; he was probably best known for his work in connection with the Women's Relief Association, which was established in 1922 for the purpose of treating the indigent women of the City of Richmond. This institution owes its existence largely to his efforts, and Dr. Henson was chairman of its staff from its inception until the time of his death. Dr. Henson also rendered valuable service in behalf of the Retreat for the Sick Hospital and under his guidance its staff was reorganized several years ago; the hospital later gained recognition from the American College of Surgeons, and has maintained this high standard until the present time. He was chairman of the executive committee at the Retreat until a few months before his death when he resigned because of ill health.

Dr. Henson possessed a keen sense of clinical judgment which he fruitfully and diligently applied to his practice. Through his sympathetic and understanding efforts in behalf of those to whom he ministered he was invariably able to gain their confidence and friendship both of which he held in many instances throughout his entire professional life.

WHEREAS, Dr. Henson faithfully served many of the citizens of this community through a long period of years with untiring energy and boundless charity. Therefore, be it

RESOLVED, That in his death, which occurred at the Retreat for the Sick Hospital on November 28, 1934, the Richmond Academy of Medicine has lost a loyal and distinguished member and the community one of its most valuable citizens.

BE IT FURTHER RESOLVED, That these resolutions be spread on the minutes of the Richmond Academy of Medicine and a copy be sent to the bereaved family and the VIRGINIA MEDICAL MONTHLY.

Respectfully submitted,

C. I. SEASE,
STUART N. MICHAUX,
R. E. MITCHELL,
THOS. D. JONES, *Chairman.*

Dr. Henry Jeter Edmonds,

Prominent and much beloved physician of Kilmarnock, Va., died December 13th, following a stroke of paralysis with which he was stricken while returning from attending a patient. He was a native of Lancaster County, Virginia, and sixty-eight years of age. Dr. Edmonds graduated in medicine

from the University of Maryland in 1887 and shortly thereafter located at Kilmarnock where he had since practiced. He had been a member of the Medical Society of Virginia for forty-six years and was a prominent Mason. His wife and a son survive him.

Dr. Ernest Downer Davis, Sr.,

Prominent physician of Stanardsville, Va., died December 3rd, following a brief illness. He was sixty-seven years of age and a graduate of the Medical College of Virginia in the class of '89. Dr. Davis had been practicing in Stanardsville since his graduation and for a number of years was chairman of the Democratic Committee of Greene County. He held membership in several organizations and had been a member of the Medical Society of Virginia for thirty-four years. Dr. Davis is survived by his wife and seven children, one of them being Dr. E. D. Davis, Jr., of Crozet.

Writing of Dr. Davis, a friend says:

"The night was never too cold or dark to answer the call of the sick, whether it came from a lowly mountain hut on 'High Top' or from the most pretentious home in Greene County's beautiful valleys. No man who has ever lived within the county's borders will be more missed."

Dr. Dexter P. Cannaday,

Roanoke, Va., died November 11th, death being due to pneumonia following perforated duodenal ulcer. He was a native of Floyd County, Virginia, and nearly fifty-seven years of age. Upon completion of his academic education, he studied medicine, graduating from the Medical College of Virginia in 1905. He had been a member of the Medical Society of Virginia for about twenty-five years. Four children survive him.

The Roanoke Academy of Medicine adopted the following resolutions on the death of Dr. Cannaday:

WHEREAS, Armistice Day, 1934, the Master saw fit to remove from our midst one of our fellow members, in the death of Dr. Dexter P. Cannaday, and,

WHEREAS, Dr. Cannaday has given a long and faithful service to the people of this community; in his profession was respected by all, and especially loved by his patients.

BE IT RESOLVED, That the Roanoke Academy of Medicine has lost one of its loyal members, and this community a capable physician and friend, in the death of Dr. Cannaday, and

BE IT FURTHER RESOLVED, That these resolutions be spread on the minutes of the Academy, and copies be sent to his children and to the VIRGINIA MEDICAL MONTHLY.

R. L. MASON,
E. C. WATSON,
E. B. STONE,
Committee.

Dr. John Hendron Bell,

Former Superintendent of the Virginia Epileptic Colony, died in Staunton, Va., December 9th, from heart disease. He was fifty-one years of age and graduated in medicine from the former University of the South, Sewanee, Tenn., in 1909. Dr. Bell had resided in Staunton since his resignation from the Colony a year ago on account of ill health, having served that institution for about eighteen years. Dr. Bell had been a member of the Medical Society of Virginia for seventeen years. His wife and a daughter survive him.

Dr. Robert Tannahill McNair,

Emporia, Va., died December 9th, following a brief illness from pneumonia. He was a native of North Carolina and fifty-six years of age. Dr. McNair graduated from the Medical College of Virginia in 1900. He was formerly a member of the Medical Society of Virginia. His wife and a son survive him.

Dr. Wendell Christopher Phillips,

A past president of the American Medical Association, died at his home in New York City on November 16th. He was seventy-seven years of age and graduated in medicine from the University of the City of New York in 1882. He specialized in diseases of the ear, nose and throat. Dr. Phillips was long active on various boards and committees of the American Medical Association, but will be especially remembered by Virginia doctors as one of the invited guests at the 1925 meeting of our State Society in Richmond.

Dr. James Marion Parrott,

State Health Officer of North Carolina, died at his home in Raleigh, on November 7th, death being due to heart disease. He graduated in medicine from Tulane University of Louisiana in 1895 and was sixty years of age. He was a former president of the Medical Society of the State of North Carolina and had been the recipient of many honors by the medical profession of his state.

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